UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF**

THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF**

THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission File Number: 001-14428

RENAISSANCERE HOLDINGS LTD.

(Exact Name Of Registrant As Specified In Its Charter)

Bermuda	**98-0141974**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification Number)

Renaissance House, 12 Crow Lane, Pembroke, Bermuda **HM 19**

(Address of Principal Executive Offices) (Zip Code)

(441) 295-4513

(Registrant's telephone number, including area code)

Not Applicable

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading symbol**	**Name of each exchange on which registered**
Common Shares, Par Value $1.00 per share	RNR	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a Series F 5.750% Preference Share, Par Value $1.00 per share	RNR PRF	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a Series G 4.20% Preference Share, Par Value $1.00 per share	RNR PRG	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒, Accelerated filer ☐, Non-accelerated filer ☐, Smaller reporting company ☐, Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The number of Common Shares, par value U.S. $1.00 per share, outstanding at May 2, 2022 was 44,188,957.

RENAISSANCERE HOLDINGS LTD.
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GLOSSARY OF DEFINED TERMS

In this Form 10-Q, references to “RenaissanceRe” refer to RenaissanceRe Holdings Ltd. (the parent company) and references to “we,” “us,” “our” and the “Company” refer to RenaissanceRe Holdings Ltd. together with its subsidiaries, unless the context requires otherwise.

“ASC”	Accounting Standards Codification
“A.M. Best”	A.M. Best Company, Inc.
“DaVinci”	DaVinci Reinsurance Ltd.
“DaVinciRe”	DaVinciRe Holdings Ltd.
“ERM”	enterprise risk management
“Exchange Act”	the Securities Exchange Act of 1934, as amended
“FAL”	a deposit that must be submitted to support the underwriting capacity of a member of Lloyd’s
“FASB”	Financial Accounting Standards Board
“FCR”	financial condition report
“Fitch”	Fitch Ratings Ltd.
“Fontana”	Fontana Holdings L.P. and its subsidiaries
“Form 10-K”	Annual Report on Form 10-K
“Form 10-Q”	this Quarterly Report on Form 10-Q for the three months ended March 31, 2022
“IRS”	United States Internal Revenue Service
“Medici”	RenaissanceRe Medici Fund Ltd.
“Moody’s”	Moody’s Investors Service
“Renaissance Reinsurance”	Renaissance Reinsurance Ltd.
“Renaissance Reinsurance of Europe”	Renaissance Reinsurance of Europe Unlimited Company
“Renaissance Reinsurance U.S.”	Renaissance Reinsurance U.S. Inc.
“RenaissanceRe”	RenaissanceRe Holdings Ltd.
“RenaissanceRe Finance”	RenaissanceRe Finance, Inc.
“RenaissanceRe Specialty U.S.”	RenaissanceRe Specialty U.S. Ltd.
“RenaissanceRe UK”	RenaissanceRe (UK) Limited
“RREAG”	RenaissanceRe Europe AG
“S&P”	Standard and Poor’s Rating Services
“SEC”	U.S. Securities and Exchange Commission
“Securities Act”	Securities Act of 1933, as amended
“Syndicate 1458”	RenaissanceRe Syndicate 1458
“TMR”	collectively, Tokio Millennium Re AG and certain associated entities and subsidiaries
“Top Layer Re”	Top Layer Reinsurance Ltd.
“Tower Hill Companies”	collectively, our investments in a group of Tower Hill affiliated companies including Bluegrass Insurance Management, LLC, Tower Hill Claims Service, LLC, Tower Hill Holdings, Inc., Tower Hill Insurance Group, LLC, Tower Hill Insurance Managers, LLC, Tower Hill Re Holdings, Inc., Tower Hill Signature Insurance Holdings, Inc., Tower Hill Risk Management LLC and Tomoka Re Holdings, Inc.
“U.K.”	United Kingdom
“U.S.”	United States of America
“Upsilon Fund”	RenaissanceRe Upsilon Fund Ltd.
“Upsilon RFO”	Upsilon RFO Re Ltd.
“Vermeer”	Vermeer Reinsurance Ltd.

NOTE ON FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q of RenaissanceRe Holdings Ltd. contains forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. Forward-looking statements are necessarily based on estimates and assumptions that are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which, with respect to future business decisions, are subject to change. These uncertainties and contingencies can affect actual results and could cause actual results to differ materially from those expressed in any forward-looking statements made by, or on behalf of, us. In particular, statements using words such as "may," "should," "estimate," "expect," "anticipate," "intend," "believe," "predict," "potential," or words of similar import generally involve forward-looking statements. For example, we may include certain forward-looking statements in "Management's Discussion and Analysis of Financial Condition and Results of Operations" with regard to trends in results, prices, volumes, operations, investment results, margins, combined ratios, fees, reserves, market conditions, risk management and exchange rates. This Form 10-Q also contains forward-looking statements with respect to our business and industry, such as those relating to our strategy and management objectives, market standing and product volumes, competition and new entrants in our industry, industry capital, insured losses from loss events, government initiatives and regulatory matters affecting the reinsurance and insurance industries.

The inclusion of forward-looking statements in this report should not be considered as a representation by us or any other person that our current objectives or plans will be achieved. Numerous factors could cause our actual results to differ materially from those addressed by the forward-looking statements, including the following:

- our exposure to natural and non-natural catastrophic events and circumstances and the variance they may cause in our financial results;
- the effect of climate change on our business, including the trend towards increasingly frequent and severe climate events;
- the effectiveness of our claims and claim expense reserving process;
- the effect of emerging claims and coverage issues;
- the highly competitive nature of our industry, resulting in consolidation of competitors, customers and (re)insurance brokers, and our reliance on a small and decreasing number of brokers;
- the historically cyclical nature of the (re)insurance industries;
- collection on claimed retrocessional coverage, and new retrocessional reinsurance being available on acceptable terms;
- the ability of our ceding companies and delegated authority counterparties to accurately assess the risks they underwrite;
- our ability to maintain our financial strength ratings;
- the impact of large non-recurring contracts and reinstatement premiums on our financial results;
- our ability to attract and retain key executives and employees;
- the effect of cybersecurity risks, including technology breaches or failure;
- the performance of our investment portfolio and financial market volatility;
- the effects of inflation;
- our ability to successfully implement our business, strategies and initiatives, and the success of any of our strategic investments or acquisitions, including our ability to manage our operations as our product and geographical diversity increases;
- our exposure to credit loss from counterparties;
- our need to make many estimates and judgments in the preparation of our financial statements;
- our ability to effectively manage capital on behalf of investors in joint ventures or other entities we manage;

- changes to the accounting rules and regulatory systems applicable to our business, including changes in Bermuda laws or regulations or as a result of increased global regulation of the insurance and reinsurance industries;
- other political, regulatory or industry initiatives adversely impacting us;
- our ability to comply with covenants in our debt agreements;
- a contention by the IRS that any of our Bermuda subsidiaries are subject to taxation in the U.S.;
- the effects of possible future tax reform legislation and regulations, including changes to the tax treatment of our shareholders or investors in our joint ventures or other entities we manage;
- our ability to determine any impairments taken on our investments;
- the uncertainty of the continuing and future impact of the COVID-19 pandemic, including measures taken in response thereto and the effect of legislative, regulatory and judicial influences on our potential reinsurance, insurance and investment exposures, or other effects that it may have;
- foreign currency exchange rate fluctuations;
- our ability to raise capital if necessary;
- our ability to comply with applicable sanctions and foreign corrupt practices laws;
- our dependence on the ability of our operating subsidiaries to declare and pay dividends;
- aspects of our corporate structure that may discourage third-party takeovers and other transactions; and
- difficulties investors may have in serving process or enforcing judgments against us in the U.S.

As a consequence, our future financial condition and results may differ from those expressed in any forward-looking statements made by or on behalf of us. The factors listed above, which are discussed in more detail in our filings with the SEC, including our Annual Report on Form 10-K for the year ended December 31, 2021 and Item 1A of this Quarterly Report on Form 10-Q, should not be construed as exhaustive. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to revise or update forward-looking statements to reflect new information, events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

PART I FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Balance Sheets
(in thousands of United States Dollars, except share and per share amounts)

	March 31, 2022	December 31, 2021
Assets	(Unaudited)	(Audited)
Fixed maturity investments trading, at fair value – amortized cost $13,540,901 at March 31, 2022 (December 31, 2021 – $13,552,579)	$ 13,029,085	$ 13,507,131
Short term investments, at fair value	4,685,280	5,298,385
Equity investments trading, at fair value	873,268	546,016
Other investments, at fair value	2,182,479	1,993,059
Investments in other ventures, under equity method	81,106	98,068
Total investments	20,851,218	21,442,659
Cash and cash equivalents	1,563,056	1,859,019
Premiums receivable	4,851,513	3,781,542
Prepaid reinsurance premiums	1,185,982	854,722
Reinsurance recoverable	4,319,490	4,268,669
Accrued investment income	60,802	55,740
Deferred acquisition costs and value of business acquired	999,712	849,160
Receivable for investments sold	486,705	380,442
Other assets	287,485	224,053
Goodwill and other intangible assets	242,116	243,496
Total assets	$ 34,848,079	$ 33,959,502
Liabilities, Noncontrolling Interests and Shareholders' Equity		
Liabilities		
Reserve for claims and claim expenses	$ 13,510,304	$ 13,294,630
Unearned premiums	4,546,305	3,531,213
Debt	1,168,872	1,168,353
Reinsurance balances payable	4,319,657	3,860,963
Payable for investments purchased	907,945	1,170,568
Other liabilities	314,141	755,441
Total liabilities	24,767,224	23,781,168
Commitments and contingencies		
Redeemable noncontrolling interests	3,963,895	3,554,053
Shareholders' Equity		
Preference shares: $1.00 par value – 30,000 shares issued and outstanding at March 31, 2022 (December 31, 2021 – 30,000)	750,000	750,000
Common shares: $1.00 par value – 44,192,791 shares issued and outstanding at March 31, 2022 (December 31, 2021 – 44,444,831)	44,193	44,445
Additional paid-in capital	513,631	608,121
Accumulated other comprehensive income (loss)	(12,834)	(10,909)
Retained earnings	4,821,970	5,232,624
Total shareholders' equity attributable to RenaissanceRe	6,116,960	6,624,281
Total liabilities, noncontrolling interests and shareholders' equity	$ 34,848,079	$ 33,959,502

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Operations
For the three months ended March 31, 2022 and 2021
(in thousands of United States Dollars, except per share amounts) (Unaudited)

	Three months ended	
	March 31, 2022	March 31, 2021
Revenues		
Gross premiums written	$ 2,942,964	$ 2,652,442
Net premiums written	$ 2,165,217	$ 1,824,083
Decrease (increase) in unearned premiums	(678,792)	(670,247)
Net premiums earned	1,486,425	1,153,836
Net investment income	83,691	79,804
Net foreign exchange gains (losses)	(15,486)	(22,788)
Equity in earnings (losses) of other ventures	(6,390)	(5,558)
Other income (loss)	1,193	2,171
Net realized and unrealized gains (losses) on investments	(673,017)	(345,563)
Total revenues	876,416	861,902
Expenses		
Net claims and claim expenses incurred	841,733	867,051
Acquisition expenses	376,507	267,234
Operational expenses	67,907	55,311
Corporate expenses	12,502	10,405
Interest expense	11,955	11,912
Total expenses	1,310,604	1,211,913
Income (loss) before taxes	(434,188)	(350,011)
Income tax benefit (expense)	36,707	19,516
Net income (loss)	(397,481)	(330,495)
Net (income) loss attributable to redeemable noncontrolling interests	11,912	46,850
Net income (loss) attributable to RenaissanceRe	(385,569)	(283,645)
Dividends on preference shares	(8,844)	(7,289)
Net income (loss) available (attributable) to RenaissanceRe common shareholders	$ (394,413)	$ (290,934)
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – basic	$ (9.10)	$ (5.87)
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	$ (9.10)	$ (5.87)
Dividends per common share	$ 0.37	$ 0.36

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)
For the three months ended March 31, 2022 and 2021
(in thousands of United States Dollars) (Unaudited)

	Three months ended	
	March 31, 2022	March 31, 2021
Comprehensive income (loss)		
Net income (loss)	$ (397,481)	$ (330,495)
Change in net unrealized gains (losses) on investments, net of tax	834	(1,811)
Foreign currency translation adjustments, net of tax	(2,759)	2,071
Comprehensive income (loss)	(399,406)	(330,235)
Net (income) loss attributable to redeemable noncontrolling interests	11,912	46,850
Comprehensive income (loss) attributable to redeemable noncontrolling interests	11,912	46,850
Comprehensive income (loss) attributable to RenaissanceRe	$ (387,494)	$ (283,385)

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Changes in Shareholders' Equity
For the three months ended March 31, 2022 and 2021
(in thousands of United States Dollars) (Unaudited)

	Three months ended	
	March 31, 2022	March 31, 2021
Preference shares		
Beginning balance	$ 750,000	$ 525,000
Issuance of shares	—	—
Repurchase of shares	—	—
Ending balance	750,000	525,000
Common shares		
Beginning balance	44,445	50,811
Issuance of shares	—	—
Repurchase of shares	(577)	(1,076)
Issuance of restricted stock awards	325	235
Ending balance	44,193	49,970
Additional paid-in capital		
Beginning balance	608,121	1,623,206
Issuance of shares	—	—
Repurchase of shares	(92,857)	(170,569)
Offering expenses	—	—
Change in redeemable noncontrolling interests	(863)	(1,865)
Issuance of restricted stock awards	(770)	(145)
Ending balance	513,631	1,450,627
Accumulated other comprehensive income (loss)		
Beginning balance	(10,909)	(12,642)
Change in net unrealized gains (loss) on investments, net of tax	834	(1,811)
Foreign currency translation adjustments, net of tax	(2,759)	2,071
Ending balance	(12,834)	(12,382)
Retained earnings		
Beginning balance	5,232,624	5,373,873
Net income (loss)	(397,481)	(330,495)
Net (income) loss attributable to redeemable noncontrolling interests	11,912	46,850
Dividends on common shares	(16,241)	(17,817)
Dividends on preference shares	(8,844)	(7,289)
Ending balance	4,821,970	5,065,122
Total shareholders' equity	$ 6,116,960	$ 7,078,337

See accompanying notes to the consolidated financial statements

RenaissanceRe Holdings Ltd. and Subsidiaries
Consolidated Statements of Cash Flows
For the three months ended March 31, 2022 and 2021
(in thousands of United States Dollars) (Unaudited)

	Three months ended	
	March 31, 2022	March 31, 2021
Cash flows provided by (used in) operating activities		
Net income (loss)	$ (397,481)	$ (330,495)
Adjustments to reconcile net (loss) income to net cash provided by (used in) operating activities		
Amortization, accretion and depreciation	(9,337)	1,747
Equity in undistributed (earnings) losses of other ventures	16,069	17,891
Net realized and unrealized (gains) losses on investments	632,729	360,424
Change in:		
Premiums receivable	(1,069,971)	(1,033,491)
Prepaid reinsurance premiums	(331,260)	(406,134)
Reinsurance recoverable	(50,821)	(234,657)
Deferred acquisition costs and value of business acquired	(150,552)	(153,420)
Reserve for claims and claim expenses	215,674	572,245
Unearned premiums	1,015,092	1,069,556
Reinsurance balances payable	458,694	766,293
Other	(160,607)	(423,421)
Net cash provided by (used in) operating activities	168,229	206,538
Cash flows provided by (used in) investing activities		
Proceeds from sales and maturities of fixed maturity investments trading	3,958,948	3,469,130
Purchases of fixed maturity investments trading	(4,405,789)	(3,808,597)
Net sales (purchases) of equity investments trading	(374,292)	128,020
Net sales (purchases) of short term investments	626,639	(111,085)
Net sales (purchases) of other investments	(210,840)	(127,661)
Net sales (purchases) of investments in other ventures	(779)	(15,542)
Return of investment from investment in other ventures	2,213	2,604
Net cash provided by (used in) investing activities	(403,900)	(463,131)
Cash flows provided by (used in) financing activities		
Dividends paid – RenaissanceRe common shares	(16,241)	(17,817)
Dividends paid – preference shares	(8,940)	(7,289)
RenaissanceRe common share repurchases	(97,259)	(171,645)
Net third-party redeemable noncontrolling interest share transactions	66,729	13,006
Taxes paid on withholding shares	(10,782)	(9,834)
Net cash provided by (used in) financing activities	(66,493)	(193,579)
Effect of exchange rate changes on foreign currency cash	6,201	20
Net increase (decrease) in cash and cash equivalents	(295,963)	(450,152)
Cash and cash equivalents, beginning of period	1,859,019	1,736,813
Cash and cash equivalents, end of period	$ 1,563,056	$ 1,286,661

See accompanying notes to the consolidated financial statements

NOTE 1. ORGANIZATION

This report on Form 10-Q should be read in conjunction with RenaissanceRe's Annual Report on Form 10-K ("Form 10-K") for the fiscal year ended December 31, 2021. RenaissanceRe was formed under the laws of Bermuda on June 7, 1993. Together with its wholly owned and majority-owned subsidiaries, joint ventures and managed funds, the Company provides property, casualty and specialty reinsurance and certain insurance solutions to its customers.

- Renaissance Reinsurance Ltd. ("Renaissance Reinsurance"), a Bermuda-domiciled reinsurance company, is the Company's principal reinsurance subsidiary and provides property, casualty and specialty reinsurance coverages to insurers and reinsurers on a worldwide basis.
- Renaissance Reinsurance U.S. Inc. is a reinsurance company domiciled in the state of Maryland that provides property, casualty and specialty reinsurance coverages to insurers and reinsurers, primarily in the Americas.
- RenaissanceRe Syndicate 1458 ("Syndicate 1458") is the Company's Lloyd's syndicate. RenaissanceRe Corporate Capital (UK) Limited, a wholly owned subsidiary of RenaissanceRe, is Syndicate 1458's sole corporate member. RenaissanceRe Syndicate Management Ltd., a wholly owned subsidiary of RenaissanceRe, is the managing agent for Syndicate 1458.
- RenaissanceRe Europe AG ("RREAG"), a Swiss-domiciled reinsurance company, which has branches in Australia, Bermuda, the U.K. and the U.S., provides property, casualty and specialty reinsurance coverages to insurers and reinsurers on a worldwide basis.
- RenaissanceRe Specialty U.S. Ltd., a Bermuda-domiciled insurer, which operates subject to U.S. federal income tax.
- DaVinci Reinsurance Ltd. ("DaVinci"), a wholly-owned subsidiary of DaVinciRe Holdings Ltd. ("DaVinciRe"), is a managed joint venture formed by the Company to principally write property catastrophe reinsurance and certain casualty and specialty reinsurance lines of business on a global basis.
- Fontana Holdings L.P. and its subsidiaries (collectively, "Fontana") are a managed joint venture formed by the Company to write casualty and specialty risks in line with the Company's book of business. Fontana launched effective April 1, 2022.
- Top Layer Reinsurance Ltd. is a managed joint venture formed by the Company to write high excess non-U.S. property catastrophe reinsurance.
- RenaissanceRe Underwriting Managers U.S. LLC, is licensed as a reinsurance intermediary broker in the State of Connecticut and underwrites specialty treaty reinsurance solutions on both a quota share and excess of loss basis on behalf of affiliates.
- Renaissance Underwriting Managers, Ltd. ("RUM"), a wholly-owned subsidiary of RenaissanceRe, acts as exclusive underwriting manager for certain of our joint ventures or managed funds in return for fee-based income and profit participation.
- RenaissanceRe Fund Management Ltd. ("RFM") is a wholly owned Bermuda exempted company and acts as the exclusive investment fund manager for several of the Company's joint ventures or managed funds, in return for a management fee, a performance based incentive fee, or both. RFM is registered as an Exempt Reporting Adviser with the Securities and Exchange Commission and serves as the investment adviser to third-party investors in the various private investment partnerships and insurance-related investment products offered by the Company.

- RenaissanceRe Medici Fund Ltd. (“Medici”) is an exempted company, incorporated in Bermuda and registered as an institutional fund. Medici invests, primarily on behalf of third-party investors, in various instruments that have returns primarily tied to property catastrophe risk.
- Upsilon RFO Re Ltd. (“Upsilon RFO”), an exempted company incorporated in Bermuda and registered as a segregated accounts company and as a collateralized insurer, is a managed fund formed by the Company principally to provide additional capacity to the worldwide aggregate and per-occurrence primary and retrocessional property catastrophe excess of loss market.
- RenaissanceRe Upsilon Fund Ltd., an exempted company incorporated in Bermuda and registered as a segregated accounts company and a Class A Professional Fund, provides a fund structure through which third-party investors can invest in reinsurance risk managed by the Company.
- Vermeer Reinsurance Ltd. (“Vermeer”), an exempted company incorporated in Bermuda and registered as a Class 3B insurer, provides capacity focused on risk remote layers in the U.S. property catastrophe market. The Company maintains a majority voting control of Vermeer, while Stichting Pensioenfonds Zorg en Welzijn (“PFZW”), a pension fund represented by PGGM Vermogensbeheer B.V., a Dutch pension fund manager, retains economic benefits.
- Mona Lisa Re Ltd. (“Mona Lisa Re”), a Bermuda domiciled special purpose insurer (“SPI”), provides reinsurance capacity to subsidiaries of RenaissanceRe, namely Renaissance Reinsurance and DaVinci, through reinsurance agreements which are collateralized and funded by Mona Lisa Re through the issuance of one or more series of principal-at-risk variable rate notes.
- Fibonacci Reinsurance Ltd. (“Fibonacci Re”), an exempted company incorporated in Bermuda and registered as a SPI, provides collateralized capacity to Renaissance Reinsurance and its affiliates. Fibonacci Re raises capital from third-party investors and the Company, via private placements of participating notes which are listed on the Bermuda Stock Exchange.
- The Company and Reinsurance Group of America, Incorporated are engaged in an initiative (“Langhorne”) to source third-party capital to support reinsurers targeting large in-force life and annuity blocks. Langhorne Holdings LLC (“Langhorne Holdings”) was incorporated to own and manage certain reinsurance entities within Langhorne. Langhorne Partners LLC (“Langhorne Partners”) is the general partner for Langhorne and manages the third-parties investing in Langhorne Holdings.
- Following the acquisition of Tokio Millennium Re AG and certain associated entities and subsidiaries (collectively, “TMR”) on March 22, 2019, the Company managed Shima Reinsurance Ltd. (“Shima Re”), Norwood Re Ltd. (“Norwood Re”) and Blizzard Re Ltd. (“Blizzard,” together with Shima Re and Norwood Re, the “TMR managed third-party capital vehicles”), which provided third-party investors with access to reinsurance risk. The TMR managed third-party capital vehicles no longer write new business. The Company ceased providing management services to Blizzard effective November 1, 2020, and to Shima Re and Norwood Re effective December 1, 2020.

NOTE 2. SIGNIFICANT ACCOUNTING POLICIES

There have been no material changes to the Company’s significant accounting policies as described in its Form 10-K for the year ended December 31, 2021, except as described below.

BASIS OF PRESENTATION

These consolidated financial statements have been prepared on the basis of accounting principles generally accepted in the U.S. (“GAAP”) for interim financial information and in conformity with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete consolidated financial statements. In the opinion of management, these unaudited consolidated financial statements reflect all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation of the Company’s financial position and results of operations as at the end of and for the periods presented. All significant intercompany accounts and transactions have been eliminated from these statements.

Certain comparative information has been reclassified to conform to the current presentation. Because of the seasonality of the Company’s business, the results of operations and cash flows for any interim period will not necessarily be indicative of the results of operations and cash flows for the full fiscal year or subsequent quarters.

USE OF ESTIMATES IN FINANCIAL STATEMENTS

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported and disclosed amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates. The major estimates reflected in the Company’s consolidated financial statements include, but are not limited to, the reserve for claims and claim expenses; reinsurance recoverable and premiums receivable, including provisions for reinsurance recoverable and premiums receivable to reflect expected credit losses; estimates of written and earned premiums; fair value, including the fair value of investments, financial instruments and derivatives; impairment charges; deferred acquisition costs and the value of business acquired and the Company’s deferred tax valuation allowance.

NOTE 3. INVESTMENTS

Fixed Maturity Investments Trading

The following table summarizes the fair value of fixed maturity investments trading:

	March 31, 2022	December 31, 2021
U.S. treasuries	$ 5,792,746	$ 6,247,779
Agencies	363,256	361,684
Non-U.S. government	485,193	549,613
Non-U.S. government-backed corporate	431,008	474,848
Corporate	3,420,946	3,214,438
Agency mortgage-backed	714,176	721,955
Non-agency mortgage-backed	212,145	233,346
Commercial mortgage-backed	567,186	634,925
Asset-backed	1,042,429	1,068,543
Total fixed maturity investments trading	$ 13,029,085	$ 13,507,131

Contractual maturities of fixed maturity investments trading are described in the following table. Expected maturities will differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

March 31, 2022	Amortized Cost	Fair Value
Due in less than one year	$ 435,206	$ 434,040
Due after one through five years	6,363,352	6,147,438
Due after five through ten years	3,870,535	3,650,795
Due after ten years	282,741	260,876
Mortgage-backed	1,535,330	1,493,507
Asset-backed	1,053,737	1,042,429
Total	$ 13,540,901	$ 13,029,085

Equity Investments Trading

The following table summarizes the fair value of equity investments trading:

	March 31, 2022	December 31, 2021
Financials	$ 125,395	$ 146,615
Communications and technology	74,567	82,444
Consumer	48,634	51,083
Industrial, utilities and energy	29,028	26,645
Healthcare	28,135	28,796
Basic materials	4,915	5,092
Equity exchange traded funds	107,814	114,919
Fixed income exchange traded funds	454,780	90,422
Total	$ 873,268	$ 546,016

Pledged Investments

At March 31, 2022, $8.4 billion of cash and investments at fair value were on deposit with, or in trust accounts for the benefit of, various counterparties, including with respect to the Company’s letter of credit facilities (December 31, 2021 - $8.7 billion). Of this amount, $1.7 billion is on deposit with, or in trust accounts for the benefit of, U.S. state regulatory authorities (December 31, 2021 - $1.8 billion).

Reverse Repurchase Agreements

At March 31, 2022, the Company held $256.6 million (December 31, 2021 - $5.1 million) of reverse repurchase agreements. These loans are fully collateralized, are generally outstanding for a short period of time and are presented on a gross basis as part of short term investments on the Company’s consolidated balance sheets. The required collateral for these loans typically includes high-quality, readily marketable instruments at a minimum amount of 102% of the loan principal. Upon maturity, the Company receives principal and interest income.

Net Investment Income

The components of net investment income are as follows:

	Three months ended	
	March 31, 2022	March 31, 2021
Fixed maturity investments	$ 62,417	$ 62,933
Short term investments	1,136	573
Equity investments	2,754	1,491
Other investments		
Catastrophe bonds	17,360	14,468
Other	5,552	3,801
Cash and cash equivalents	(41)	102
	89,178	83,368
Investment expenses	(5,487)	(3,564)
Net investment income	$ 83,691	$ 79,804

Net Realized and Unrealized Gains (Losses) on Investments

Net realized and unrealized gains (losses) on investments are as follows:

	Three months ended	
	March 31, 2022	March 31, 2021
Net realized gains (losses) on fixed maturity investments trading	$ (121,152)	$ 20,398
Net unrealized gains (losses) on fixed maturity investments trading	(464,177)	(297,018)
Net realized and unrealized gains (losses) on fixed maturity investments trading	(585,329)	(276,620)
Net realized and unrealized gains (losses) on investments-related derivatives	(40,288)	14,861
Net realized gains (losses) on equity investments trading sold during the period	(20)	109,887
Net unrealized gains (losses) on equity investments trading still held at reporting date	(48,669)	(177,809)
Net realized and unrealized gains (losses) on equity investments trading	(48,689)	(67,922)
Net realized and unrealized gains (losses) on other investments - catastrophe bonds	(8,261)	(19,083)
Net realized and unrealized gains (losses) on other investments - other	9,550	3,201
Net realized and unrealized gains (losses) on investments	$ (673,017)	$ (345,563)

(1) Net realized and unrealized gains (losses) on investment-related derivatives includes fixed maturity investments related derivatives (interest rate futures, interest rate swaps, credit default swaps and total return swaps), and equity investments related derivatives (equity futures). See “Note 13. Derivative Instruments” for additional information.

NOTE 4. FAIR VALUE MEASUREMENTS

The use of fair value to measure certain assets and liabilities with resulting unrealized gains or losses is pervasive within the Company's consolidated financial statements. Fair value is defined under accounting guidance currently applicable to the Company as the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between open market participants at the measurement date. The Company recognizes the change in unrealized gains or losses arising from changes in fair value in its consolidated statements of operations.

FASB ASC Topic *Fair Value Measurements and Disclosures* prescribes a fair value hierarchy that prioritizes the inputs to the respective valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to valuation techniques that use at least one significant input that is unobservable (Level 3). The three levels of the fair value hierarchy are described below:

- Fair values determined by Level 1 inputs utilize unadjusted quoted prices obtained from active markets for identical assets or liabilities for which the Company has access at the measurement date. The fair value is determined by multiplying the quoted price by the quantity held by the Company;
- Fair values determined by Level 2 inputs utilize inputs (other than quoted prices included in Level 1) that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets and liabilities in active markets, and inputs other than quoted prices that are observable for the asset or liability, such as interest rates and yield curves that are observable at commonly quoted intervals, broker quotes and certain pricing indices; and
- Level 3 inputs are based all or in part on significant unobservable inputs for the asset or liability, and include situations where there is little, if any, market activity for the asset or liability. In these cases, significant management assumptions can be used to establish management's best estimate of the assumptions used by other market participants in determining the fair value of the asset or liability.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the level in the fair value hierarchy within which the fair value measurement in its entirety falls has been determined based on the lowest level input that is significant to the fair value measurement of the asset or liability. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and the Company considers factors specific to the asset or liability.

In order to determine if a market is active or inactive for a security, the Company considers a number of factors, including, but not limited to, the spread between what a seller is asking for a security and what a buyer is bidding for the same security, the volume of trading activity for the security in question, the price of the security compared to its par value (for fixed maturity investments), and other factors that may be indicative of market activity.

There have been no material changes in the Company's valuation techniques, nor have there been any transfers between Level 1 and Level 2, or Level 2 and Level 3 during the period represented by these consolidated financial statements.

Below is a summary of the assets and liabilities that are measured at fair value on a recurring basis and also represents the carrying amount on the Company's consolidated balance sheets:

At March 31, 2022	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Fixed maturity investments				
U.S. treasuries	$ 5,792,746	$ 5,792,746	$ —	$ —
Agencies	363,256	—	363,256	—
Non-U.S. government	485,193	—	485,193	—
Non-U.S. government-backed corporate	431,008	—	431,008	—
Corporate	3,420,946	—	3,420,946	—
Agency mortgage-backed	714,176	—	714,176	—
Non-agency mortgage-backed	212,145	—	212,145	—
Commercial mortgage-backed	567,186	—	567,186	—
Asset-backed	1,042,429	—	1,042,429	—
Total fixed maturity investments	13,029,085	5,792,746	7,236,339	—
Short term investments	4,685,280	—	4,685,280	—
Equity investments trading	873,268	873,268	—	—
Other investments				
Catastrophe bonds	1,233,023	—	1,233,023	—
Direct private equity investments	80,213	—	—	80,213
Term loans	85,000	—	—	85,000
	1,398,236	—	1,233,023	165,213
Fund investments (1)	784,243			
Total other investments	2,182,479	—	1,233,023	165,213
Other assets and (liabilities)				
Assumed and ceded (re)insurance contracts (2)	(4,099)	—	—	(4,099)
Derivative assets (3)	16,530	1,613	14,917	—
Derivative liabilities (3)	(40,423)	(4,843)	(35,580)	—
Total other assets and (liabilities)	(27,992)	(3,230)	(20,663)	(4,099)
	$ 20,742,120	$ 6,662,784	$ 13,133,979	$ 161,114

(1) Fund investments, which are comprised of private equity funds, private credit funds and hedge funds, are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

(2) Included in assumed and ceded (re)insurance contracts at March 31, 2022 was $4.4 million of other assets and $8.5 million of other liabilities.

(3) Refer to "Note 13. Derivative Instruments" for additional information related to the fair value, by type of contract, of derivatives entered into by the Company.

At December 31, 2021	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Fixed maturity investments				
U.S. treasuries	$ 6,247,779	$ 6,247,779	$ —	$ —
Agencies	361,684	—	361,684	—
Non-U.S. government	549,613	—	549,613	—
Non-U.S. government-backed corporate	474,848	—	474,848	—
Corporate	3,214,438	—	3,214,438	—
Agency mortgage-backed	721,955	—	721,955	—
Non-agency mortgage-backed	233,346	—	233,346	—
Commercial mortgage-backed	634,925	—	634,925	—
Asset-backed	1,068,543	—	1,068,543	—
Total fixed maturity investments	13,507,131	6,247,779	7,259,352	—
Short term investments	5,298,385	—	5,298,385	—
Equity investments trading	546,016	546,016	—	—
Other investments				
Catastrophe bonds	1,104,034	—	1,104,034	—
Direct private equity investments	88,373	—	—	88,373
Term loans	74,850			74,850
	1,267,257	—	1,104,034	163,223
Fund investments [1]	725,802			
Total other investments	1,993,059	—	1,104,034	163,223
Other assets and (liabilities)				
Assumed and ceded (re)insurance contracts [2]	(4,727)	—	—	(4,727)
Derivative assets [3]	17,889	1,067	16,822	—
Derivative liabilities [3]	(16,954)	(1,598)	(15,356)	—
Total other assets and (liabilities)	(3,792)	(531)	1,466	(4,727)
	$ 21,340,799	$ 6,793,264	$ 13,663,237	$ 158,496

(1) Fund investments, which are comprised of private equity funds, private credit funds and hedge funds, are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient and have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheet.

(2) Included in assumed and ceded (re)insurance contracts at December 31, 2021 was $6.1 million of other assets and $10.8 million of other liabilities.

(3) Refer to "Note 13. Derivative Instruments" for additional information related to the fair value, by type of contract, of derivatives entered into by the Company.

Level 1 and Level 2 Assets and Liabilities Measured at Fair Value

Fixed Maturity Investments

Fixed maturity investments included in Level 1 consist of the Company's investments in U.S. treasuries. Fixed maturity investments included in Level 2 are agencies, non-U.S. government, non-U.S. government-backed corporate, corporate, agency mortgage-backed, non-agency mortgage-backed, commercial mortgage-backed and asset-backed.

The Company's fixed maturity investments are primarily priced using pricing services, such as index providers and pricing vendors, as well as broker quotations. In general, the pricing vendors provide pricing for a high volume of liquid securities that are actively traded. For securities that do not trade on an exchange, the pricing services generally utilize market data and other observable inputs in matrix pricing models to determine month end prices. Observable inputs include benchmark yields, reported trades, broker-dealer quotes, issuer spreads, bids, offers, reference data and industry and economic events. Index pricing generally relies on market traders as the primary source for pricing; however, models are also utilized to provide prices for all index eligible securities. The models use a variety of observable inputs such as benchmark yields, transactional data, dealer runs, broker-dealer quotes and corporate actions. Prices are generally verified using third-party data. Securities which are priced by an index provider are generally included in the index.

In general, broker-dealers value securities through their trading desks based on observable inputs. The methodologies include mapping securities based on trade data, bids or offers, observed spreads, and performance on newly issued securities. Broker-dealers also determine valuations by observing secondary trading of similar securities. Prices obtained from broker quotations are considered non-binding, however they are based on observable inputs and by observing secondary trading of similar securities obtained from active and non-distressed markets.

The Company considers these broker quotations to be Level 2 inputs as they are corroborated with other market observable inputs. The techniques generally used to determine the fair value of the Company's fixed maturity investments are detailed below by asset class.

U.S. Treasuries

Level 1 - At March 31, 2022, the Company's U.S. treasuries fixed maturity investments were primarily priced by pricing services and had a weighted average yield to maturity of 2.4% and a weighted average credit quality of AA (December 31, 2021 - 1.1% and AA, respectively). When pricing these securities, the pricing services utilize daily data from many real time market sources, including active broker-dealers. Certain data sources are regularly reviewed for accuracy to attempt to ensure the most reliable price source is used for each issue and maturity date.

Agencies

Level 2 - At March 31, 2022, the Company's agency fixed maturity investments had a weighted average yield to maturity of 2.5% and a weighted average credit quality of AA (December 31, 2021 - 1.2% and AA, respectively). The issuers of the Company's agency fixed maturity investments primarily consist of the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation and other agencies. Fixed maturity investments included in agencies are primarily priced by pricing services. When evaluating these securities, the pricing services gather information from market sources and integrate other observations from markets and sector news. Evaluations are updated by obtaining broker-dealer quotes and other market information including actual trade volumes, when available. The fair value of each security is individually computed using analytical models which incorporate option adjusted spreads and other daily interest rate data.

Non-U.S. Government

Level 2 - At March 31, 2022, the Company's non-U.S. government fixed maturity investments had a weighted average yield to maturity of 2.5% and a weighted average credit quality of AA (December 31, 2021 - 1.2% and AA, respectively). The issuers of securities in this sector are non-U.S. governments and their respective agencies as well as supranational organizations. Securities held in these sectors are primarily priced by pricing services that employ proprietary discounted cash flow models to value the securities. Key quantitative inputs for these models are daily observed benchmark curves for treasury, swap and high issuance credits. The pricing services then apply a credit spread for each security which is developed by in-depth and real time market analysis. For securities in which trade volume is low, the pricing services utilize data from more frequently traded securities with similar attributes. These models may also be supplemented by daily market and credit research for international markets.

Non-U.S. Government-backed Corporate

Level 2 - At March 31, 2022, the Company's non-U.S. government-backed corporate fixed maturity investments had a weighted average yield to maturity of 2.7% and a weighted average credit quality of AA (December 31, 2021 - 1.4% and AA, respectively). Non-U.S. government-backed corporate fixed maturity investments are primarily priced by pricing services that employ proprietary discounted cash flow models to value the securities. Key quantitative inputs for these models are daily observed benchmark curves for treasury, swap and high quality credits. The pricing services then apply a credit spread to the respective curve for each security which is developed by in-depth and real time market analysis. For securities in which trade volume is low, the pricing services utilize data from more frequently traded securities with similar attributes. These models may also be supplemented by daily market and credit research for international markets.

Corporate

Level 2 - At March 31, 2022, the Company's corporate fixed maturity investments principally consisted of U.S. and international corporations and had a weighted average yield to maturity of 3.9% and a weighted average credit quality of BBB (December 31, 2021 - 2.8% and BBB, respectively). The Company's corporate fixed maturity investments are primarily priced by pricing services. When evaluating these securities, the pricing services gather information from market sources regarding the issuer of the security and obtain credit data, as well as other observations, from markets and sector news. Evaluations are updated by obtaining broker-dealer quotes and other market information including actual trade volumes, when available. The pricing services also consider the specific terms and conditions of the securities, including any specific features which may influence risk. In certain instances, securities are individually evaluated using a spread which is added to the U.S. treasury curve or a security specific swap curve as appropriate.

Agency Mortgage-backed

Level 2 - At March 31, 2022, the Company's agency mortgage-backed fixed maturity investments included agency residential mortgage-backed securities with a weighted average yield to maturity of 3.0%, a weighted average credit quality of AA and a weighted average life of 7.8 years (December 31, 2021 - 1.9%, AA and 5.6 years, respectively). The Company's agency mortgage-backed fixed maturity investments are primarily priced by pricing services using a mortgage pool specific model which utilizes daily inputs from the active to-be-announced market which is very liquid, as well as the U.S. treasury market. The model also utilizes additional information, such as the weighted average maturity, weighted average coupon and other available pool level data which is provided by the sponsoring agency. Valuations are also corroborated with active market quotes.

Non-agency Mortgage-backed

Level 2 - At March 31, 2022, the Company's non-agency mortgage-backed fixed maturity investments had a weighted average yield to maturity of 3.9%, a weighted average credit quality of non-investment grade and a weighted average life of 6.7 years (December 31, 2021 - 3.2%, non-investment grade and 5.7 years, respectively). Securities held in these sectors are primarily priced by pricing services using an option adjusted spread model or other relevant models, which principally utilize inputs including benchmark yields, available trade information or broker quotes, and issuer spreads. The pricing services also review collateral prepayment speeds, loss severity and delinquencies among other collateral performance indicators for the securities valuation, when applicable.

Commercial Mortgage-backed

Level 2 - At March 31, 2022, the Company's commercial mortgage-backed fixed maturity investments had a weighted average yield to maturity of 3.3%, a weighted average credit quality of AA, and a weighted average life of 4.0 years (December 31, 2021 - 1.9%, AA and 4.1 years, respectively). Securities held in these sectors are primarily priced by pricing services. The pricing services apply dealer quotes and other available trade information such as bids and offers, prepayment speeds which may be adjusted for the underlying collateral or current price data, the U.S. treasury curve and swap curve as well as cash settlement. The pricing services discount the expected cash flows for each security held in this sector using a spread adjusted benchmark yield based on the characteristics of the security.

Asset-backed

Level 2 - At March 31, 2022, the Company's asset-backed fixed maturity investments had a weighted average yield to maturity of 2.7%, a weighted average credit quality of AA and a weighted average life of 5.6 years (December 31, 2021 - 1.8%, AA and 5.4 years, respectively). The underlying collateral for the Company's asset-backed fixed maturity investments primarily consists of collateralized loan obligations and other receivables. Securities held in these sectors are primarily priced by pricing services. The pricing services apply dealer quotes and other available trade information such as bids and offers, prepayment speeds which may be adjusted for the underlying collateral or current price data, the U.S. treasury curve and swap curve as well as cash settlement. The pricing services determine the expected cash flows for each security held in this sector using historical prepayment and default projections for the underlying collateral and current market data. In addition, a spread is applied to the relevant benchmark and used to discount the cash flows noted above to determine the fair value of the securities held in this sector.

Short Term Investments

Level 2 - At March 31, 2022, the Company's short term investments had a weighted average yield to maturity of 0.5% and a weighted average credit quality of AAA (December 31, 2021 - 0.1% and AAA, respectively). The fair value of the Company's portfolio of short term investments is generally determined using amortized cost which approximates fair value and, in certain cases, in a manner similar to the Company's fixed maturity investments noted above.

Equity Investments, Classified as Trading

Level 1 - The fair value of the Company's portfolio of equity investments, classified as trading is primarily priced by pricing services, reflecting the closing price quoted for the final trading day of the period. When pricing these securities, the pricing services utilize daily data from many real time market sources, including applicable securities exchanges. All data sources are regularly reviewed for accuracy to attempt to ensure the most reliable price source was used for each security.

Other Investments

Catastrophe Bonds

Level 2 - The Company's other investments include investments in catastrophe bonds which are recorded at fair value based on broker or underwriter bid indications.

Other Assets and Liabilities

Derivatives

Level 1 and Level 2 - Other assets and liabilities include certain derivatives entered into by the Company. The fair value of these transactions includes certain exchange traded futures contracts which are considered Level 1, and foreign currency contracts and certain credit derivatives, determined using standard industry valuation models and considered Level 2, as the inputs to the valuation model are based on observable market inputs. For credit derivatives, these inputs include credit spreads, credit ratings of the underlying referenced security, the risk-free rate and the contract term. For foreign currency contracts, these inputs include spot rates and interest rate curves.

Level 3 Assets and Liabilities Measured at Fair Value

Below is a summary of quantitative information regarding the significant unobservable inputs (Level 3) used in determining the fair value of assets and liabilities measured at fair value on a recurring basis:

At March 31, 2022	Fair Value (Level 3)	Valuation Technique	Unobservable Inputs	Low	High	Weighted Average or Actual
Other investments						
Direct private equity investment	$ 80,213	Internal valuation model	Discount rate	n/a	n/a	7.5%
			Liquidity discount	n/a	n/a	15.0 %
Term loans	85,000	Discounted cash flow	Credit Spread Adjustment	n/a	n/a	0.2 %
			Risk Premium	n/a	n/a	2.6 %
Total other investments	165,213					
Other assets and (liabilities)						
Assumed and ceded (re)insurance contracts	(4,099)	Internal valuation model	Net undiscounted cash flows	n/a	n/a	$ 14,700
			Expected loss ratio	n/a	n/a	9.8 %
			Discount rate	n/a	n/a	2.4 %
Total other assets and (liabilities)	(4,099)					
Total other assets and (liabilities) measured at fair value on a recurring basis using Level 3 inputs	$ 161,114					

At December 31, 2021	Fair Value (Level 3)	Valuation Technique	Unobservable Inputs	Low	High	Weighted Average or Actual
Direct private equity investment	$ 88,373	Internal valuation model	Discount rate	n/a	n/a	7.5 %
			Liquidity discount	n/a	n/a	15.0 %
Term loans	74,850	Discounted cash flow	Credit Spread Adjustment	n/a	n/a	0.2 %
			Risk Premium	n/a	n/a	2.6 %
Total other investments	163,223					
Other assets and (liabilities)						
Assumed and ceded (re)insurance contracts	(4,727)	Internal valuation model	Net undiscounted cash flows	n/a	n/a	$ 14,920
			Expected loss ratio	n/a	n/a	14.7 %
			Discount rate	n/a	n/a	1.3 %
Total other assets and (liabilities)	(4,727)					
Total other assets and (liabilities) measured at fair value on a recurring basis using Level 3 inputs	$ 158,496					

Below is a reconciliation of the beginning and ending balances, for the periods shown, of assets and liabilities measured at fair value on a recurring basis using Level 3 inputs. Interest and dividend income are included in net investment income and are excluded from the reconciliation.

	Other Investments		Other Assets and (Liabilities)	Total
	Direct private equity investments	Term loans		
Balance - January 1, 2022	$ 88,373	$ 74,850	$ (4,727)	$ 158,496
Included in net investment income	—	605	—	605
Included in net realized and unrealized gains (losses) on investments	(8,150)	—	—	(8,150)
Included in other income (loss)	—	—	909	909
Total foreign exchange gains (losses)	(10)	—	—	(10)
Purchases	—	10,000	(281)	9,719
Settlements	—	(455)	—	(455)
Balance - March 31, 2022	$ 80,213	$ 85,000	$ (4,099)	$ 161,114

	Other investments		Other assets and (liabilities)	Total
	Direct private equity investments	Term loans		
Balance - January 1, 2021	$ 79,807	$ —	$ (6,211)	$ 73,596
Included in net realized and unrealized gains (losses) on investments	(3,936)	—	—	(3,936)
Included in other income (loss)	—	—	96	96
Total foreign exchange gains (losses)	3	—	—	3
Purchases	—	—	(306)	(306)
Balance - March 31, 2021	$ 75,874	$ —	$ (6,421)	$ 69,453

Other Investments

Direct Private Equity Investments

Level 3 - At March 31, 2022, the Company’s other investments included $80.2 million of direct private equity investments which are recorded at fair value, with the fair value obtained through the use of internal valuation models. The Company measured the fair value of these investments using multiples of net tangible book value of the underlying entity. The significant unobservable inputs used in the fair value measurement of these investments are liquidity discount rates applied to each of the net tangible book value multiples used in the internal valuation models, and discount rates applied to the expected cash flows of the underlying entity in various scenarios. These unobservable inputs in isolation can cause significant increases or decreases in fair value. Generally, an increase in the liquidity discount rate or discount rates would result in a decrease in the fair value of these private equity investments.

Term Loans

Level 3 - At March 31, 2022, the Company's other investments included an $85.0 million investment in a term loan which is recorded at fair value, with the fair value obtained through the use of a discounted cash flow model. The significant unobservable inputs used in the discounted cash flow model are the cash flow projection of the associated term loan, and the discount rate. The discount rate used is based on the Secured Overnight Financing Rate, or SOFR, which is then adjusted for credit risk and a risk premium. These adjustments may be impacted by market movements implied by transactions of similar or related assets, loan-to-value, tenor, liquidity, credit risk adjustment or other risk factors. Assumptions used in the valuation process may significantly impact the resulting fair value.

Other Assets and Liabilities

Assumed and Ceded (Re)insurance Contracts

Level 3 - At March 31, 2022, the Company had a $4.1 million net liability related to assumed and ceded (re)insurance contracts accounted for at fair value, with the fair value obtained through the use of an internal valuation model. The inputs to the internal valuation model are principally based on proprietary data as observable market inputs are generally not available. The most significant unobservable inputs include the assumed and ceded expected net cash flows related to the contracts, including the expected premium, acquisition expenses and losses; the expected loss ratio and the relevant discount rate used to present value the net cash flows. The contract period and acquisition expense ratio are considered an observable input as each is defined in the contract. Generally, an increase in the net expected cash flows and expected term of the contract and a decrease in the discount rate, expected loss ratio or acquisition expense ratio, would result in an increase in the expected profit and ultimate fair value of these assumed and ceded (re)insurance contracts.

Financial Instruments Disclosed, But Not Carried, at Fair Value

The Company uses various financial instruments in the normal course of its business. The Company's (re)insurance contracts are excluded from the fair value of financial instruments accounting guidance, unless the Company elects the fair value option, and therefore, are not included in the amounts discussed herein. The carrying values of cash and cash equivalents, accrued investment income, receivables for investments sold, certain other assets, payables for investments purchased, certain other liabilities, and other financial instruments not included herein approximated their fair values.

Debt

Included on the Company's consolidated balance sheet at March 31, 2022 were debt obligations of $1.2 billion (December 31, 2021 - $1.2 billion). At March 31, 2022, the fair value of the Company's debt obligations was $1.2 billion (December 31, 2021 – $1.3 billion).

The fair value of the Company's debt obligations is determined using indicative market pricing obtained from third-party service providers, which the Company considers Level 2 in the fair value hierarchy. There have been no changes during the period in the Company's valuation technique used to determine the fair value of the Company's debt obligations. Refer to "Note 7. Debt and Credit Facilities" for additional information related to the Company's debt obligations.

The Fair Value Option for Financial Assets and Financial Liabilities

The Company has elected to account for certain financial assets and financial liabilities at fair value using the guidance under FASB ASC Topic *Financial Instruments* as the Company believes it represents the most meaningful measurement basis for these assets and liabilities. Below is a summary of the balances the Company has elected to account for at fair value:

	March 31, 2022	December 31, 2021
Other investments	$ 2,182,479	$ 1,993,059
Other assets	$ 4,416	$ 6,100
Other liabilities	$ 8,515	$ 10,827

Included in net realized and unrealized gains (losses) on investments for the three months ended March 31, 2022 were net unrealized losses of $6.1 million related to the changes in fair value of other investments (2021 – net unrealized gains of $15.9 million).

Measuring the Fair Value of Other Investments Using Net Asset Valuations

The table below shows the Company’s portfolio of other investments measured using net asset valuations as a practical expedient:

At March 31, 2022	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period (Minimum Days)	Redemption Notice Period (Maximum Days)
Private equity funds	$ 238,473	$ 456,092	See below	See below	See below
Private credit funds	545,769	904,187	See below	See below	See below
Hedge funds	—	—	See below	See below	See below
Total other investments measured using net asset valuations	$ 784,242	$ 1,360,279			

At December 31, 2021	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period (Minimum Days)	Redemption Notice Period (Maximum Days)
Private equity funds	$ 241,297	$ 458,566	See below	See below	See below
Private credit funds	473,112	868,571	See below	See below	See below
Hedge funds	11,394	—	See below	See below	See below
Total other investments measured using net asset valuations	$ 725,803	$ 1,327,137			

Private Equity Funds

The Company’s investments in private equity funds include limited partnership or similar interests that invest in certain private equity asset classes including U.S. and global leveraged buyouts. The Company generally has no right to redeem its interest in any of these private equity funds in advance of dissolution of the applicable limited partnerships. Instead, distributions are received by the Company in connection with the exit from the underlying private equity investments of the fund. It is estimated that the majority of the underlying assets of the limited partnerships would liquidate over 5 to 10 years from inception of the limited partnership.

Private Credit Funds

The Company’s investments in private credit funds include limited partnership or similar interests that invest in certain private credit asset classes, including senior secured bank loan funds, U.S. direct lending funds, secondaries, mezzanine investments and distressed securities. The Company generally has no right to redeem its interest in any of these private credit funds in advance of dissolution of the applicable limited partnerships. Instead, distributions are received by the Company in connection with the liquidation or maturity of the underlying private credit assets of the fund. It is estimated that the majority of the underlying assets of the limited partnerships would liquidate over 5 to 10 years from inception of the limited partnership.

Hedge Funds

At March 31, 2022, the Company had an investment in a hedge fund of $Nil (2021 - $11.4 million). The hedge fund was primarily focused on global credit opportunities which were generally redeemable at the option of the limited partnership interest holder. During the first quarter of 2022, the Company fully redeemed its investment in the hedge fund.

Limited Partnerships Entities

The Company's fund investments represent variable interests in limited partnerships entities with unaffiliated fund managers in the normal course of business. The Company determined that certain of these limited partnership interests represent investments in variable interest entities ("VIEs") and that it is not required to consolidate these investments because it is not the primary beneficiary of these VIEs. The Company's maximum exposure to loss with respect to these VIEs is limited to the carrying amounts reported in the Company's consolidated balance sheet and any unfunded commitment.

The following table summarizes the aggregate carrying amount of the unconsolidated fund investments in VIEs, as well as our maximum exposure to loss associated with these VIEs:

		Maximum Exposure to Loss	
At March 31, 2022	**Carrying amount**	**Unfunded Commitments**	**Total**
Other investments	$ 596,925	$ 1,315,179	$ 1,912,104
At December 31, 2021			
Other investments	$ 539,866	$ 1,282,451	$ 1,822,317

NOTE 5. REINSURANCE

The Company purchases reinsurance and other protection to manage its risk portfolio and to reduce its exposure to large losses. The Company currently has in place contracts that provide for recovery of a portion of certain claims and claim expenses, generally in excess of various retentions or on a proportional basis. In addition to loss recoveries, certain of the Company's ceded reinsurance contracts provide for payments of additional premiums, for reinstatement premiums and for lost no-claims bonuses, which are incurred when losses are ceded to the respective reinsurance contracts. The Company remains liable to the extent that any reinsurer fails to meet its obligations.

The following table sets forth the effect of reinsurance and retrocessional activity on premiums written and earned and on net claims and claim expenses incurred:

	Three months ended	
	March 31, 2022	March 31, 2021
Premiums Written		
Direct	$ 301,105	$ 225,139
Assumed	2,641,859	2,427,303
Ceded	(777,747)	(828,359)
Net premiums written	$ 2,165,217	$ 1,824,083
Premiums Earned		
Direct	$ 242,761	$ 162,089
Assumed	1,690,268	1,416,646
Ceded	(446,604)	(424,899)
Net premiums earned	$ 1,486,425	$ 1,153,836
Claims and Claim Expenses		
Gross claims and claim expenses incurred	$ 1,017,555	$ 1,250,246
Claims and claim expenses recovered	(175,822)	(383,195)
Net claims and claim expenses incurred	$ 841,733	$ 867,051

In assessing an allowance for reinsurance assets, which includes premiums receivable and reinsurance recoverable, the Company considers historical information, financial strength of reinsurers, collateralization amounts, and ratings to determine the appropriateness of the allowance. In assessing future default for reinsurance assets, the Company evaluates the provision for current expected credit losses under the probability of default and loss given default method. The Company utilizes its internal capital and risk models, which use counterparty ratings from major rating agencies, and assesses the current market conditions for the likelihood of default. The Company updates its internal capital and risk models for counterparty ratings and current market conditions on a periodic basis. Historically, the Company has not experienced material credit losses from reinsurance assets.

Premiums receivable reflect premiums written based on contract and policy terms and include estimates based on information received from both insureds and ceding companies, supplemented by our own judgement, including our estimates of premiums that are written but not reported. Due to the nature of reinsurance, ceding companies routinely report and remit premiums to us subsequent to the contract coverage period, although the time lag involved in the process of reporting and collecting premiums is typically shorter than the lag in reporting losses.

At March 31, 2022, the Company's premiums receivable balance was $4.9 billion (December 31, 2021 - $3.8 billion). Of the Company's premiums receivable balance as of March 31, 2022, the majority are receivable from highly rated counterparties. The provision for current expected credit losses on the Company's premiums receivable was $2.8 million at March 31, 2022 (December 31, 2021 - $2.8 million). The following table provides a roll forward of the provision for current expected credit losses of the Company's premiums receivable:

	Three months ended March 31, 2022
Beginning balance	$ 2,776
Provision for allowance	—
Ending balance	$ 2,776

Reinsurance recoverable reflects amounts due from reinsurers based on the claim liabilities associated with the reinsured policy. The Company accrues amounts that are due from assuming companies based on estimated ultimate losses applicable to the contracts.

At March 31, 2022, the Company's reinsurance recoverable balance was $4.3 billion (December 31, 2021 - $4.3 billion). Of the Company's reinsurance recoverable balance at March 31, 2022, 48.3% is fully collateralized by our reinsurers, 50.8% is recoverable from reinsurers rated A- or higher by major rating agencies and 1.0% is recoverable from reinsurers rated lower than A- by major rating agencies (December 31, 2021 - 46.9%, 52.1% and 1.0%, respectively). The reinsurers with the three largest balances accounted for 20.0%, 7.7% and 4.6%, respectively, of the Company's reinsurance recoverable balance at March 31, 2022 (December 31, 2021 - 19.9%, 8.4% and 4.3%, respectively). The provision for current expected credit losses was $8.3 million at March 31, 2022 (December 31, 2021 - $8.3 million). The three largest company-specific components of the provision for current expected credit losses represented 15.2%, 10.3% and 9.4%, respectively, of the Company's total provision for current expected credit losses at March 31, 2022 (December 31, 2021 - 18.0%, 13.9% and 11.2%, respectively). The following table provides a roll forward of the provision for current expected credit losses of the Company's reinsurance recoverable:

	Three months ended March 31, 2022
Beginning balance	$ 8,344
Provision for allowance	—
Ending balance	$ 8,344

NOTE 6. RESERVE FOR CLAIMS AND CLAIM EXPENSES

The Company believes the most significant accounting judgment made by management is its estimate of claims and claim expense reserves. Claims and claim expense reserves represent estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts the Company sells. The Company establishes its claims and claim expense reserves by taking claims reported to the Company by insureds and ceding companies, but which have not yet been paid ("case reserves"), adding estimates for the anticipated cost of claims incurred but not yet reported to the Company, or incurred but not enough reported to the Company (collectively referred to as "IBNR") and, if deemed necessary, adding costs for additional case reserves which represent the Company's estimates for claims related to specific contracts previously reported to the Company which it believes may not be adequately estimated by the client as of that date, or adequately covered in the application of IBNR ("additional case reserves"). The Company's reserving committee, which includes members of the Company's senior management, reviews, discusses, and assesses the reasonableness and adequacy of the reserving estimates included in our unaudited financial statements.

The following table summarizes the Company's claims and claim expense reserves by segment, allocated between case reserves, additional case reserves and IBNR:

At March 31, 2022	Case Reserves	Additional Case Reserves	IBNR	Total
Property	$ 1,679,877	$ 1,956,369	$ 2,597,013	$ 6,233,259
Casualty and Specialty	1,839,996	127,342	5,309,707	7,277,045
Total	$ 3,519,873	$ 2,083,711	$ 7,906,720	$ 13,510,304
At December 31, 2021				
Property	$ 1,555,210	$ 1,996,760	$ 2,825,718	$ 6,377,688
Casualty and Specialty	1,784,334	128,065	5,004,543	6,916,942
Total	$ 3,339,544	$ 2,124,825	$ 7,830,261	$ 13,294,630

Activity in the liability for unpaid claims and claim expenses is summarized as follows:

Three months ended March 31	2022	2021
Reserve for claims and claim expenses, net of reinsurance recoverable, as of beginning of period	$ 9,025,961	$ 7,455,128
Net incurred related to:		
Current year	859,566	876,083
Prior years	(17,833)	(9,032)
Total net incurred	841,733	867,051
Net paid related to:		
Current year	17,790	14,751
Prior years	608,805	486,488
Total net paid	626,595	501,239
Foreign exchange [(1)]	(50,285)	(28,224)
Reserve for claims and claim expenses, net of reinsurance recoverable, as of end of period	9,190,814	7,792,716
Reinsurance recoverable as of end of period	4,319,490	3,160,667
Reserve for claims and claim expenses as of end of period	$ 13,510,304	$ 10,953,383

(1) Reflects the impact of the foreign exchange revaluation of the net reserve for claims and claim expenses denominated in non-U.S. dollars as at the balance sheet date.

Prior Year Development of the Reserve for Net Claims and Claim Expenses

The Company’s estimates of claims and claim expense reserves are not precise in that, among other things, they are based on predictions of future developments and estimates of future trends and other variable factors. Some, but not all, of the Company’s reserves are further subject to the uncertainty inherent in actuarial methodologies and estimates. Because a reserve estimate is simply an insurer’s estimate at a point in time of its ultimate liability, and because there are numerous factors that affect reserves and claims payments that cannot be determined with certainty in advance, the Company’s ultimate payments will vary, perhaps materially, from its estimates of reserves. If the Company determines in a subsequent period that adjustments to its previously established reserves are appropriate, such adjustments are recorded in the period in which they are identified. On a net basis, the Company’s cumulative favorable or unfavorable development is generally reduced by offsetting changes in its reinsurance recoverable, as well as changes to loss related premiums such as reinstatement premiums and redeemable noncontrolling interest, all of which generally move in the opposite direction to changes in the Company’s ultimate claims and claim expenses.

The following table details the Company’s prior year net development by segment of its liability for net unpaid claims and claim expenses:

Three months ended March 31	2022	2021
	(Favorable) adverse development	(Favorable) adverse development
Property	$ (16,758)	$ (5,162)
Casualty and Specialty	(1,075)	(3,870)
Total net (favorable) adverse development of prior accident years net claims and claim expenses	$ (17,833)	$ (9,032)

Changes to prior year estimated net claims reserves decreased net loss by $17.8 million during the three months ended March 31, 2022 (2021 - decreased net loss by $9.0 million), excluding the consideration of changes in reinstatement, adjustment or other premium changes, profit commissions, redeemable noncontrolling interests - DaVinciRe and Vermeer, and income tax.

Property Segment

The following tables detail the development of the Company's liability for net unpaid claims and claim expenses for its Property segment, allocated between large and small catastrophe net claims and claim expenses and attritional net claims and claim expenses, included in the other line item:

Three months ended March 31	2022 (Favorable) adverse development
Catastrophe net claims and claim expenses	
Large catastrophe events	
2021 Weather-Related Large Loss Events	$ 19,190
2020 Weather-Related Large Loss Events	(5,272)
2019 Large Loss Events	(4,807)
2018 Large Loss Events	(3,800)
2017 Large Loss Events	(18,000)
Other	(1,601)
Total large catastrophe events	(14,290)
Small catastrophe events and attritional loss movements	
Other small catastrophe events and attritional loss movements	(2,468)
Total small catastrophe events and attritional loss movements	(2,468)
Total catastrophe and attritional net claims and claim expenses	(16,758)
Total net (favorable) adverse development of prior accident years net claims and claim expenses	$ (16,758)

The net favorable development of prior accident years net claims and claim expenses within the Company's Property segment for the three months ended March 31, 2022 of $16.8 million included net favorable development on prior accident years net claims and claim expenses associated with the following large catastrophe events:

- $19.2 million of net adverse development associated with Winter Storm Uri, the European Floods, Hurricane Ida, the hail storm in Europe in late June 2021, the wildfires in California during the third quarter of 2021, the tornadoes in the Central and Midwest U.S. in December 2021, the Midwest Derecho in December 2021, and losses associated with aggregate loss contracts (collectively, the "2021 Weather-Related Large Loss Events");
- $5.3 million of net favorable development associated with Hurricanes Laura, Sally, Isaias, Delta, Zeta and Eta, the California, Oregon and Washington wildfires, Typhoon Maysak, the August 2020 Derecho, and losses associated with aggregate loss contracts (collectively, the "2020 Weather-Related Large Loss Events");
- $4.8 million of net favorable development associated with Hurricane Dorian and Typhoons Faxai and Hagibis and certain losses associated with aggregate loss contracts (collectively, the "2019 Large Loss Events");
- $3.8 million of net favorable development associated with Typhoons Jebi, Mangkhut and Trami, Hurricane Florence, the wildfires in California during the third and fourth quarters of 2018, Hurricane Michael and certain losses associated with aggregate loss contracts (collectively, the "2018 Large Loss Events"); and
- $18.0 million of net favorable development associated with Hurricanes Harvey, Irma and Maria, the Mexico City Earthquake, the wildfires in California during the fourth quarter of 2017 and certain losses associated with aggregate loss contracts (collectively, the "2017 Large Loss Events").

The Company's Property segment also experienced net favorable development of $2.5 million in the three months ended March 31, 2022 associated with a number of other small catastrophe events as well as attritional loss movements related to lines of business where the Company principally estimates net claims and claim expenses using traditional actuarial methods.

Three months ended March 31	2021 (Favorable) adverse development
Catastrophe net claims and claim expenses	
Large catastrophe events	
2019 Large Loss Events	$ (4,742)
2018 Large Loss Events	(3,263)
2017 Large Loss Events	(5,508)
Other	(679)
Total large catastrophe events	(14,192)
Small catastrophe events and attritional loss movements	
Other small catastrophe events and attritional loss movements	9,030
Total small catastrophe events and attritional loss movements	9,030
Total catastrophe and attritional net claims and claim expenses	(5,162)
Total net (favorable) adverse development of prior accident years net claims and claim expenses	$ (5,162)

The net favorable development of prior accident years net claims and claim expenses within the Company's Property segment in the three months ended March 31, 2021 of $5.2 million was primarily comprised of net favorable development on prior accident years net claims and claim expenses associated with the following large catastrophe events:

- $4.7 million associated with the 2019 Large Loss Events;
- $3.3 million associated with the 2018 Large Loss Events; and
- $5.5 million associated with the 2017 Large Loss Events.

The Company's Property segment also experienced net adverse development of $9.0 million in the three months ended March 31, 2021 associated with a number of other small catastrophe events as well as attritional loss movements related to lines of business where the Company principally estimates net claims and claim expenses using traditional actuarial methods.

Casualty and Specialty Segment

The following table details the development of the Company's liability for unpaid claims and claim expenses for its Casualty and Specialty segment:

Three months ended March 31	2022 (Favorable) adverse development	2021 (Favorable) adverse development
Actuarial methods - actual reported claims less than expected claims	$ (1,075)	$ (3,870)
Total net (favorable) adverse development of prior accident years net claims and claim expenses	$ (1,075)	$ (3,870)

The net favorable development of prior accident years net claims and claim expenses within the Company's Casualty and Specialty segment of $1.1 million in the three months ended March 31, 2022 was due to reported losses generally coming in lower than expected on attritional net claims and claim expenses, principally within our specialty lines of business.

The net favorable development of prior accident years net claims and claim expenses within the Company’s Casualty and Specialty segment of $3.9 million in the three months ended March 31, 2021 was due to reported losses generally coming in lower than expected on attritional net claims and claim expenses, principally within our specialty lines of business.

NOTE 7. DEBT AND CREDIT FACILITIES

There have been no material changes to the Company’s debt obligations and credit facilities as described in its Form 10-K for the year ended December 31, 2021.

The agreements governing the Company’s debt obligations and credit facilities contain certain customary representations, warranties and covenants. At March 31, 2022, the Company was not in violation of any of its debt covenants.

Debt Obligations

A summary of the Company’s debt obligations on its consolidated balance sheets is set forth below:

	March 31, 2022		December 31, 2021	
	Fair Value	Carrying Value	Fair Value	Carrying Value
3.600% Senior Notes due 2029	$ 401,352	$ 393,534	$ 432,316	$ 393,305
3.450% Senior Notes due 2027	303,372	297,404	321,204	297,281
3.700% Senior Notes due 2025	303,948	298,889	318,852	298,798
4.750% Senior Notes due 2025 (DaVinciRe) (1)	149,568	149,045	166,071	148,969
Total senior notes	1,158,240	1,138,872	1,238,443	1,138,353
Medici Revolving Credit Facility (2)	30,000	30,000	30,000	30,000
Total debt	$ 1,188,240	$ 1,168,872	$ 1,268,443	$ 1,168,353

(1) RenaissanceRe owns a noncontrolling economic interest in its joint venture DaVinciRe. Because RenaissanceRe controls a majority of DaVinciRe’s issued voting shares, the consolidated financial statements of DaVinciRe are included in the consolidated financial statements of RenaissanceRe. However, RenaissanceRe does not guarantee or provide credit support for DaVinciRe and RenaissanceRe’s financial exposure to DaVinciRe is limited to its investment in DaVinciRe’s shares and counterparty credit risk arising from reinsurance transactions.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici’s issued voting shares, the financial statements of Medici are included in RenaissanceRe’s consolidated financial statements. Subsequent to March 31, 2022, Medici repaid in full the aggregate principal amount drawn under the Medici Revolving Credit Facility.

Credit Facilities

The outstanding amounts issued or drawn under each of the Company’s significant credit facilities is set forth below:

At March 31, 2022	Issued or Drawn
Revolving Credit Facility (1)	$ —
Medici Revolving Credit Facility (2)	30,000
Bilateral Letter of Credit Facilities	
Secured	403,522
Unsecured	456,307
Funds at Lloyd’s Letter of Credit Facility	275,000
	$ 1,164,829

(1) At March 31, 2022, no amounts were issued or drawn under this facility.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici’s issued voting shares, the financial statements of Medici are included in RenaissanceRe’s consolidated financial statements. The drawn amount of the Medici Revolving Credit Facility is included on the Company’s consolidated balance sheets under debt. Subsequent to March 31, 2022, Medici repaid in full the aggregate principal amount drawn under the Medici Revolving Credit Facility.

NOTE 8. NONCONTROLLING INTERESTS

A summary of the Company’s redeemable noncontrolling interests on its consolidated balance sheets is set forth below:

	March 31, 2022	December 31, 2021
Redeemable noncontrolling interest - DaVinciRe	$ 1,775,503	$ 1,499,451
Redeemable noncontrolling interest - Medici	941,912	856,820
Redeemable noncontrolling interest - Vermeer	1,246,480	1,197,782
Redeemable noncontrolling interests	$ 3,963,895	$ 3,554,053

A summary of the Company’s redeemable noncontrolling interests on its consolidated statements of operations is set forth below:

	Three months ended	
	March 31, 2022	March 31, 2021
Redeemable noncontrolling interest - DaVinciRe	$ (25,323)	$ (39,934)
Redeemable noncontrolling interest - Medici	(5,287)	(13,443)
Redeemable noncontrolling interest - Vermeer	18,698	6,527
Net income (loss) attributable to redeemable noncontrolling interests	$ (11,912)	$ (46,850)

Redeemable Noncontrolling Interest – DaVinciRe

RenaissanceRe owns a noncontrolling economic interest in DaVinciRe; however, because RenaissanceRe controls a majority of DaVinciRe’s issued voting shares, the consolidated financial statements of DaVinciRe are included in the consolidated financial statements of the Company and all significant intercompany transactions have been eliminated. The portion of DaVinciRe’s earnings owned by third parties is recorded in the consolidated statements of operations as net income (loss) attributable to redeemable noncontrolling interests. The Company’s noncontrolling economic ownership in DaVinciRe was 30.9% at March 31, 2022 (December 31, 2021 - 28.7%).

DaVinciRe shareholders are party to a shareholders agreement which provides DaVinciRe shareholders, excluding RenaissanceRe, with certain redemption rights that enable each shareholder to notify DaVinciRe of such shareholder’s desire for DaVinciRe to repurchase up to half of such shareholder’s initial aggregate number of shares held, subject to certain limitations, such as limiting the aggregate of all share repurchase requests to 25% of DaVinciRe’s capital in any given year and satisfying all applicable regulatory requirements. If total shareholder requests exceed 25% of DaVinciRe’s capital, the number of shares repurchased will be reduced among the requesting shareholders pro-rata, based on the amounts desired to be repurchased. Shareholders desiring to have DaVinci repurchase their shares must notify DaVinciRe before March 1 of each year. The repurchase price will be based on GAAP book value as of the end of the year in which the shareholder notice is given, and the repurchase will be effective as of December 31 of that year. The repurchase price can be subject to a holdback and true-up for potential development on outstanding loss reserves after settlement of claims relating to the applicable years. Similarly, when shares are issued by DaVinci and sold to DaVinci shareholders, the sale price is based on GAAP book value as of the end of the period preceding the sale and can be subject to a true-up for potential development on outstanding loss reserves.

2022

During the three months ended March 31, 2022, DaVinciRe completed an equity capital raise of $500.0 million, comprised of $284.8 million from third-party investors and $215.2 million from RenaissanceRe. In addition, RenaissanceRe sold an aggregate of $102.9 million of its shares in DaVinciRe to third-party investors and purchased an aggregate of $87.4 million of shares from third-party investors. The Company's noncontrolling economic ownership in DaVinciRe subsequent to these transactions was 30.9%.

Refer to "Note 15. Subsequent Events" for additional information related to the Company's noncontrolling economic ownership in DaVinciRe subsequent to March 31, 2022.

2021

During the three months ended March 31, 2021, DaVinciRe completed an equity capital raise of $250.0 million, comprised of $150.9 million from third-party investors and $99.1 million from RenaissanceRe. In addition, RenaissanceRe sold an aggregate of $40.0 million of its shares in DaVinciRe to third-party investors and purchased an aggregate of $156.7 million of shares from third-party investors. The Company's noncontrolling economic ownership in DaVinciRe subsequent to these transactions was 28.7%.

The Company expects its noncontrolling economic ownership in DaVinciRe to fluctuate over time.

The activity in redeemable noncontrolling interest – DaVinciRe is detailed in the table below:

	Three months ended	
	March 31, 2022	March 31, 2021
Beginning balance	$ 1,499,451	$ 1,560,693
Redemption of shares from redeemable noncontrolling interests, net of adjustments	(87,428)	(155,971)
Sale of shares to redeemable noncontrolling interests, net of adjustments	388,803	190,926
Net income (loss) attributable to redeemable noncontrolling interest	(25,323)	(39,934)
Ending balance	$ 1,775,503	$ 1,555,714

Redeemable Noncontrolling Interest - Medici

RenaissanceRe owns a noncontrolling economic interest in Medici; however, because RenaissanceRe controls all of Medici's issued voting shares, the financial statements of Medici are included in the consolidated financial statements of the Company. The portion of Medici's earnings owned by third parties is recorded in the consolidated statements of operations as net (loss) income attributable to redeemable noncontrolling interests. Any shareholder may redeem all or any portion of its shares as of the last day of any calendar month, upon at least 30 calendar days' prior irrevocable written notice to Medici.

2022

During the three months ended March 31, 2022, third-party investors subscribed for $167.3 million and redeemed $76.9 million of the participating, non-voting common shares of Medici. As a result of these net subscriptions, the Company's noncontrolling economic ownership in Medici was 13.6% at March 31, 2022.

Refer to "Note 15. Subsequent Events" for additional information related to the Company's noncontrolling economic ownership in Medici subsequent to March 31, 2022.

2021

During the three months ended March 31, 2021, third-party investors subscribed for $40.8 million and redeemed $7.7 million of the participating, non-voting common shares of Medici. As a result of these net subscriptions, the Company's noncontrolling economic ownership in Medici was 15.4% at March 31, 2021.

The Company expects its noncontrolling economic ownership in Medici to fluctuate over time.

The activity in redeemable noncontrolling interest – Medici is detailed in the table below:

	Three months ended	
	March 31, 2022	March 31, 2021
Beginning balance	$ 856,820	$ 717,999
Redemption of shares from redeemable noncontrolling interests, net of adjustments	(76,908)	(7,699)
Sale of shares to redeemable noncontrolling interests	167,287	40,845
Net income (loss) attributable to redeemable noncontrolling interest	(5,287)	(13,443)
Ending balance	$ 941,912	$ 737,702

Redeemable Noncontrolling Interest – Vermeer

RenaissanceRe owns 100% of the voting non-participating shares of Vermeer, while the sole third-party investor, PFZW, owns 100% of the non-voting participating shares of Vermeer and retains all of the economic benefits. Vermeer is managed by RUM in return for a management fee. The Company has concluded that Vermeer is a VIE as it has voting rights that are not proportional to its participating rights, and the Company is the primary beneficiary of Vermeer. As a result, the Company consolidates Vermeer and all significant inter-company transactions have been eliminated. As PFZW owns all of the economics of Vermeer, all of Vermeer's earnings are allocated to PFZW in the consolidated statement of operations as net (loss) income attributable to redeemable noncontrolling interests. The Company has not provided any financial or other support to Vermeer that it was not contractually required to provide.

2022

During the three months ended March 31, 2022, PFZW subscribed for $30.0 million of the participating, non-voting common shares of Vermeer.

2021

During the three months ended March 31, 2021, PFZW subscribed for $Nil of the participating, non-voting common shares of Vermeer.

The Company does not expect its noncontrolling economic ownership in Vermeer to fluctuate over time.

The activity in redeemable noncontrolling interest – Vermeer is detailed in the table below:

	Three months ended	
	March 31, 2022	March 31, 2021
Beginning balance	$ 1,197,782	$ 1,109,627
Sale of shares to redeemable noncontrolling interest	30,000	—
Net income (loss) attributable to redeemable noncontrolling interest	18,698	6,527
Ending balance	$ 1,246,480	$ 1,116,154

NOTE 9. VARIABLE INTEREST ENTITIES

Upsilon RFO

RenaissanceRe indirectly owns a portion of the participating non-voting preference shares of Upsilon RFO and all of Upsilon RFO's voting Class A shares. The shareholders (other than the voting Class A shareholder) participate in all of the profits or losses of Upsilon RFO while their shares remain outstanding. The shareholders (other than the voting Class A shareholder) indemnify Upsilon RFO against losses relating to insurance risk, and therefore, these shares have been accounted for as prospective reinsurance under FASB ASC Topic *Financial Services - Insurance*.

Upsilon RFO is considered a VIE as it has insufficient equity capital to finance its activities without additional financial support. The Company is the primary beneficiary of Upsilon RFO as it has the power over the activities that most significantly impact the economic performance of Upsilon RFO and has the obligation to absorb expected losses and the right to receive expected benefits that could be significant to Upsilon RFO, in accordance with the accounting guidance. As a result, the Company consolidates Upsilon RFO and all significant inter-company transactions have been eliminated. Other than its equity investment in Upsilon RFO, the Company has not provided financial or other support to Upsilon RFO that it was not contractually required to provide.

2022

During the three months ended March 31, 2022, $89.0 million of Upsilon RFO non-voting preference shares were issued to existing investors, including $10.0 million to the Company. Also during the three months ended March 31, 2022 and following the release of collateral that was previously held by cedants associated with prior years' contracts, Upsilon RFO returned $22.9 million of capital to third party investors. At March 31, 2022, the Company's participation in the risks assumed by Upsilon RFO was 13.8%.

At March 31, 2022, the Company's consolidated balance sheet included total assets and total liabilities of Upsilon RFO of $4.1 billion and $4.1 billion, respectively (December 31, 2021 - $3.9 billion and $3.9 billion, respectively). Of the total assets and liabilities, a net amount of $0.3 billion (December 31, 2021 - $0.2 billion) is attributable to the Company, and $1.6 billion (December 31, 2021 - $1.5 billion) is attributable to third-party investors.

2021

During the three months ended March 31, 2021, $470.3 million of Upsilon RFO non-voting preference shares were issued to existing investors, including $32.3 million to the Company. In addition, during the three months ended March 31, 2021 and following the release of collateral that was previously held by cedants associated with prior years' contracts, Upsilon RFO returned $145.0 million of capital to its investors, including $9.2 million to the Company. At March 31, 2021, the Company's participation in the risks assumed by Upsilon RFO was 12.8%.

Vermeer

Vermeer provides capacity focused on risk remote layers in the U.S. property catastrophe market. Refer to "Note 8. Noncontrolling Interests" for additional information regarding Vermeer.

At March 31, 2022, the Company's consolidated balance sheet included total assets and total liabilities of Vermeer of $1.3 billion and $71.7 million, respectively (December 31, 2021 - $1.3 billion and $69.9 million, respectively). In addition, the Company's consolidated balance sheet included redeemable noncontrolling interests associated with Vermeer of $1.2 billion at March 31, 2022 (December 31, 2021 - $1.2 billion).

Mona Lisa Re Ltd.

Mona Lisa Re provides reinsurance capacity to subsidiaries of RenaissanceRe through reinsurance agreements which are collateralized and funded by Mona Lisa Re through the issuance of one or more series of principal-at-risk variable rate notes to third-party investors.

Upon issuance of a series of notes by Mona Lisa Re, all of the proceeds from the issuance are deposited into collateral accounts, separated by series, to fund any potential obligation under the reinsurance agreements entered into with Renaissance Reinsurance and/or DaVinci underlying such series of notes. The outstanding principal amount of each series of notes generally will be returned to holders of such notes upon the expiration of the risk period underlying such notes, unless an event occurs which causes a loss under the applicable series of notes, in which case the amount returned will be reduced by such noteholder's pro rata share of such loss, as specified in the applicable governing documents of such notes.

In addition, holders of such notes are generally entitled to interest payments, payable quarterly, as determined by the applicable governing documents of each series of notes.

The Company concluded that Mona Lisa Re meets the definition of a VIE as it does not have sufficient equity capital to finance its activities. The Company evaluated its relationship with Mona Lisa Re and concluded it is not the primary beneficiary of Mona Lisa Re as it does not have the power over the activities that most significantly impact the economic performance of Mona Lisa Re, in accordance with the accounting guidance. As a result, the financial position and results of operations of Mona Lisa Re are not consolidated by the Company.

The only transactions related to Mona Lisa Re that are recorded in the Company’s consolidated financial statements are the ceded reinsurance agreements entered into by Renaissance Reinsurance and DaVinci which are accounted for as prospective reinsurance under FASB ASC Topic *Financial Services - Insurance*, and the fair value of the principal-at-risk variable rate notes owned by the Company. Other than its investment in the principal-at-risk variable rate notes of Mona Lisa Re, the Company has not provided financial or other support to Mona Lisa Re that it was not contractually required to provide.

Renaissance Reinsurance and DaVinci have together entered into ceded reinsurance contracts with Mona Lisa Re with ceded premiums written of $25.1 million and $6.2 million, respectively, during the three months ended March 31, 2022 (2021 - $28.3 million and $6.4 million, respectively). In addition, Renaissance Reinsurance and DaVinci recognized ceded premiums earned related to the ceded reinsurance contracts with Mona Lisa Re of $9.7 million and $2.4 million, respectively, during the three months ended March 31, 2022 (2021 - $9.5 million and $1.7 million, respectively).

Effective June 29, 2021, Mona Lisa Re issued a series of principal-at-risk variable rate notes to investors for a total principal amount of $250.0 million. Effective January 10, 2020, Mona Lisa Re issued two series of principal-at-risk variable rate notes to investors for principal amounts of $250.0 million and $150.0 million. At March 31, 2022, the total assets and total liabilities of Mona Lisa Re were $687.5 million and $687.5 million, respectively (December 31, 2021 - $650.5 million and $650.5 million, respectively).

The fair value of the Company’s investment in the principal-at-risk variable rate notes of Mona Lisa Re is included in other investments. Net of third-party investors, the fair value of the Company’s investment in Mona Lisa Re was $5.0 million at March 31, 2022 (December 31, 2021 - $6.5 million).

Fibonacci Re

Fibonacci Re provides collateralized capacity to Renaissance Reinsurance and its affiliates.

The Company concluded that Fibonacci Re meets the definition of a VIE as it does not have sufficient equity capital to finance its activities. The Company evaluated its relationship with Fibonacci Re and concluded it is not the primary beneficiary of Fibonacci Re as it does not have power over the activities that most significantly impact the economic performance of Fibonacci Re. As a result, the Company does not consolidate the financial position or results of operations of Fibonacci Re. The Company has not provided financial or other support to Fibonacci Re that it was not contractually required to provide.

Renaissance Reinsurance had no outstanding balances with Fibonacci Re as of March 31, 2022 and December 31, 2021, and there was no material impact on the Company’s consolidated statements of operations for the three months ended March 31, 2022 and March 31, 2021.

Langhorne

The Company and Reinsurance Group of America, Incorporated formed Langhorne, an initiative to source third-party capital to support reinsurers targeting large in-force life and annuity blocks. In connection with Langhorne, as of March 31, 2022, the Company has invested $2.4 million in Langhorne Holdings (December 31, 2021 - $2.3 million), a company that owns and manages certain reinsurance entities within Langhorne. In addition, as of March 31, 2022 the Company has invested $0.1 million in Langhorne Partners (December 31, 2021 - $0.1 million), the general partner for Langhorne and the entity which manages the third-party investors investing into Langhorne Holdings.

The Company concluded that Langhorne Holdings meets the definition of a VIE as the voting rights are not proportional with the obligations to absorb losses and rights to receive residual returns. The Company evaluated its relationship with Langhorne Holdings and concluded it is not the primary beneficiary of Langhorne Holdings, as it does not have power over the activities that most significantly impact the economic performance of Langhorne Holdings. As a result, the Company does not consolidate the financial position or results of operations of Langhorne Holdings. The Company separately evaluated Langhorne Partners and concluded that it was not a VIE. The Company accounts for its investments in Langhorne Holdings and Langhorne Partners under the equity method of accounting, one quarter in arrears.

The Company anticipates that its absolute investment in Langhorne will increase, perhaps materially, if in-force life and annuity blocks of businesses are written. The Company expects its absolute and relative ownership in Langhorne Partners to remain stable. Other than its current and committed future equity investment in Langhorne, the Company has not provided financial or other support to Langhorne that it was not contractually required to provide.

Shima Re

Shima Re was acquired on March 22, 2019 in connection with the acquisition of TMR. Shima Re is a Bermuda domiciled Class 3 insurer. Shima Re is registered as a segregated accounts company and provides third-party investors with access to reinsurance risk. The maximum remaining exposure of each segregated account is fully collateralized and is funded by cash or investments as prescribed by the participant thereto. Shima Re no longer writes new business and the last in-force contract written by Shima Re expired on December 31, 2019. The Company ceased providing management services to Shima Re effective December 1, 2020.

Shima Re is considered a VIE as it has voting rights that are not proportional to its participating rights. The Company evaluated its relationship with Shima Re and concluded it is not the primary beneficiary of any segregated account, as it does not have power over the activities that most significantly impact the economic performance of any segregated account. As a result, the Company does not consolidate the financial position or results of operations of Shima Re or its segregated accounts. The Company has not provided any financial or other support to any segregated account of Shima Re that it was not contractually required to provide.

Norwood Re

Until December 1, 2020, Norwood Re was managed by a subsidiary of RREAG that the Company acquired in the acquisition of TMR. Norwood Re is a Bermuda domiciled SPI registered as a segregated accounts company formed to provide solutions for reinsurance-linked asset investors. Norwood Re is wholly owned by the Norwood Re Purpose Trust. Risks assumed by the segregated accounts of Norwood Re were fronted by, or ceded from, only one cedant - RREAG and/or its insurance affiliates. The obligations of each segregated account are funded through the issuance of non-voting preference shares to third-party investors. The maximum exposure of each segregated account is fully collateralized and is funded by cash and term deposits or investments as prescribed by the participant thereto. Norwood Re no longer writes new business, and the last in-force contract written by Norwood Re expired on June 30, 2020. The Company ceased providing management services to Norwood Re effective December 1, 2020.

Norwood Re is considered a VIE as it has voting rights that are not proportional to its participating rights. The Company evaluated its relationship with Norwood Re and concluded it is not the primary beneficiary of Norwood Re and its segregated accounts, as it does not have power over the activities that most significantly impact the economic performance of Norwood Re and its segregated accounts. As a result, the Company does not consolidate the financial position or results of operations of Norwood Re and its segregated accounts. The Company has not provided any financial or other support to Norwood Re that it was not contractually required to provide.

Fund Investments

The Company's fund investments represent variable interests in limited partnerships entities with unaffiliated fund managers in the normal course of business. Refer to "Note 6. Fair Value Measurements" for additional information.

NOTE 10. SHAREHOLDERS' EQUITY

Series G Preference Shares

In July 2021, RenaissanceRe raised $500.0 million through the issuance of 20,000 shares of its 4.20% Series G Preference Shares, $1.00 par value and liquidation preference $25,000 per share (equivalent to 20,000,000 Depositary Shares, each of which represents a 1/1,000th interest in a 4.20% Series G Preference Share). The 4.20% Series G Preference Shares have no stated maturity date and may be redeemed at a redemption price of $25,000 per share (equivalent to $25.00 per Depositary Share), plus declared and unpaid dividends, at RenaissanceRe’s option on or after July 15, 2026, provided that no redemption may occur prior to July 15, 2026 unless certain redemption requirements are met.

Series E 5.375% Preference Shares Redemption

The Series E 5.375% Preference Shares were redeemed on August 11, 2021 for $275.0 million plus accrued and unpaid dividends thereon. Following the redemption, no Series E 5.375% Preference Shares remain outstanding.

Dividends

The Board of Directors of RenaissanceRe declared dividends of $0.37 per common share, payable to common shareholders of record on March 15, 2022, and the Company paid the dividends on March 31, 2022.

The Board of Directors approved the payment of quarterly dividends on each of RenaissanceRe’s several series of preference shares to preference shareholders of record in the amounts and on the quarterly record dates and dividend payment dates set forth in the prospectus supplement and Certificate of Designation for the applicable series of preference shares, unless and until further action is taken by the Board of Directors. The dividend payment dates for the preference shares will be the first day of March, June, September and December of each year (or if this date is not a business day, on the business day immediately following this date). The record dates for the preference share dividends are one day prior to the dividend payment dates.

The amount of the dividend on the 5.750% Series F Preference Shares is an amount per share equal to 5.750% of the liquidation preference per annum (the equivalent to $1,437.50 per 5.750% Series F Preference Share per annum, or $359.375 per 5.750% Series F Preference Share per quarter, or $1.4375 per Depositary Share per annum, or $0.359375 per Depositary Share per quarter). The amount of the dividend on the 4.20% Series G Preference Shares is an amount per share equal to 4.20% of the liquidation preference per annum (the equivalent to $1,050 per 4.20% Series G Preference Share per annum, or $262.50 per 4.20% Series G Preference Share per quarter, or $1.05 per Depositary Share per annum, or $0.2625 per quarter).

The amount of the dividend on the Series E 5.375% Preference Shares was an amount per share equal to 5.375% of the liquidation preference per annum (the equivalent to $1.34375 per share per annum, or $0.3359375 per share per quarter), and was paid prior to the redemption in full of the Series E 5.375% Preference Shares on August 11, 2021.

During the three months ended March 31, 2022, the Company paid $8.8 million in preference share dividends (2021 - $7.3 million) and $16.2 million in common share dividends (2021 - $17.8 million).

Share Repurchases

The Company’s share repurchase program may be effected from time to time, depending on market conditions and other factors, through open market purchases and privately negotiated transactions. On February 4, 2022, RenaissanceRe’s Board of Directors approved a renewal of its authorized share repurchase program for an aggregate amount of up to $500.0 million. Unless terminated earlier by RenaissanceRe’s Board of Directors, the program will expire when the Company has repurchased the full value of the common shares authorized. The Company’s decision to repurchase common shares will depend on, among other matters, the market price of the common shares and the capital requirements of the Company. During the three months ended March 31, 2022, the Company repurchased 576,663 common shares at an aggregate cost of $93.4 million and an average price of $162.03 per common share. At March 31, 2022, $489.1 million remained available for repurchase under the share repurchase program.

NOTE 11. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per common share:

(common shares in thousands)	Three months ended March 31, 2022	Three months ended March 31, 2021
Numerator:		
Net income (loss) available (attributable) to RenaissanceRe common shareholders	$ (394,413)	$ (290,934)
Amount allocated to participating common shareholders [1]	(235)	(129)
Net income (loss) allocated to RenaissanceRe common shareholders	$ (394,648)	$ (291,063)
Denominator:		
Denominator for basic income (loss) per RenaissanceRe common share - weighted average common shares	43,357	49,579
Per common share equivalents of non-vested shares	—	—
Denominator for diluted income (loss) per RenaissanceRe common share - adjusted weighted average common shares and assumed conversions	43,357	49,579
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – basic	$ (9.10)	$ (5.87)
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	$ (9.10)	$ (5.87)

(1) Represents earnings and dividends attributable to holders of unvested shares issued pursuant to the Company’s stock compensation plans.

NOTE 12. SEGMENT REPORTING

The Company's reportable segments are defined as follows: (1) Property, which is comprised of catastrophe and other property (re)insurance written on behalf of the Company's operating subsidiaries, joint ventures and managed funds, and (2) Casualty and Specialty, which is comprised of casualty and specialty (re)insurance written on behalf of the Company's operating subsidiaries, joint ventures and managed funds. In addition to its reportable segments, the Company has an Other category, which primarily includes its strategic investments, investments unit, corporate expenses, capital servicing costs, noncontrolling interests and certain expenses related to acquisitions and dispositions.

The Company's Property segment is managed by the Chief Underwriting Officer - Property and the Casualty and Specialty segment is managed by the Chief Underwriting Officer - Casualty and Specialty, each of whom operate under the direction of the Company's Group Chief Underwriting Officer, who in turn reports to the Company's President and Chief Executive Officer.

The Company does not manage its assets by segment; accordingly, net investment income and total assets are not allocated to the segments.

A summary of the significant components of the Company's revenues and expenses by segment is as follows:

Three months ended March 31, 2022	Property	Casualty and Specialty	Other	Total
Gross premiums written	$ 1,343,508	$ 1,599,456	$ —	$ 2,942,964
Net premiums written	$ 890,166	$ 1,275,051	$ —	$ 2,165,217
Net premiums earned	$ 618,591	$ 867,834	$ —	$ 1,486,425
Net claims and claim expenses incurred	259,761	581,972	—	841,733
Acquisition expenses	127,096	249,411	—	376,507
Operational expenses	46,932	20,975	—	67,907
Underwriting income (loss)	$ 184,802	$ 15,476	$ —	200,278
Net investment income			83,691	83,691
Net foreign exchange gains (losses)			(15,486)	(15,486)
Equity in earnings of other ventures			(6,390)	(6,390)
Other income (loss)			1,193	1,193
Net realized and unrealized gains (losses) on investments			(673,017)	(673,017)
Corporate expenses			(12,502)	(12,502)
Interest expense			(11,955)	(11,955)
Income (loss) before taxes and redeemable noncontrolling interests				(434,188)
Income tax benefit (expense)			36,707	36,707
Net (income) loss attributable to redeemable noncontrolling interests			11,912	11,912
Dividends on preference shares			(8,844)	(8,844)
Net income (loss) available (attributable) to RenaissanceRe common shareholders				$ (394,413)
Net claims and claim expenses incurred – current accident year	$ 276,519	$ 583,047	$ —	$ 859,566
Net claims and claim expenses incurred – prior accident years	(16,758)	(1,075)	—	(17,833)
Net claims and claim expenses incurred – total	$ 259,761	$ 581,972	$ —	$ 841,733
Net claims and claim expense ratio – current accident year	44.7 %	67.2 %		57.8 %
Net claims and claim expense ratio – prior accident years	(2.7)%	(0.1)%		(1.2)%
Net claims and claim expense ratio – calendar year	42.0 %	67.1 %		56.6 %
Underwriting expense ratio	28.1 %	31.1 %		29.9 %
Combined ratio	70.1 %	98.2 %		86.5 %

Three months ended March 31, 2021	Property	Casualty and Specialty	Other	Total
Gross premiums written	$ 1,616,819	$ 1,035,623	$ —	$ 2,652,442
Net premiums written	$ 1,008,460	$ 815,623	$ —	$ 1,824,083
Net premiums earned	$ 605,166	$ 548,670	$ —	$ 1,153,836
Net claims and claim expenses incurred	498,832	368,219	—	867,051
Acquisition expenses	112,754	154,480	—	267,234
Operational expenses	35,375	19,936	—	55,311
Underwriting income (loss)	$ (41,795)	$ 6,035	$ —	(35,760)
Net investment income			79,804	79,804
Net foreign exchange gains (losses)			(22,788)	(22,788)
Equity in earnings of other ventures			(5,558)	(5,558)
Other income (loss)			2,171	2,171
Net realized and unrealized gains (losses) on investments			(345,563)	(345,563)
Corporate expenses			(10,405)	(10,405)
Interest expense			(11,912)	(11,912)
Income (loss) before taxes and redeemable noncontrolling interests				(350,011)
Income tax benefit (expense)			19,516	19,516
Net (income) loss attributable to redeemable noncontrolling interests			46,850	46,850
Dividends on preference shares			(7,289)	(7,289)
Net income (loss) available (attributable) to RenaissanceRe common shareholders				$ (290,934)
Net claims and claim expenses incurred – current accident year	$ 503,994	$ 372,089	$ —	$ 876,083
Net claims and claim expenses incurred – prior accident years	(5,162)	(3,870)	—	(9,032)
Net claims and claim expenses incurred – total	$ 498,832	$ 368,219	$ —	$ 867,051
Net claims and claim expense ratio – current accident year	83.3 %	67.8 %		75.9 %
Net claims and claim expense ratio – prior accident years	(0.9)%	(0.7)%		(0.8)%
Net claims and claim expense ratio – calendar year	82.4 %	67.1 %		75.1 %
Underwriting expense ratio	24.5 %	31.8 %		28.0 %
Combined ratio	106.9 %	98.9 %		103.1 %

NOTE 13. DERIVATIVE INSTRUMENTS

From time to time, the Company may enter into derivative instruments such as futures, options, swaps, forward contracts and other derivative contracts primarily to manage its foreign currency exposure, obtain exposure to a particular financial market, for yield enhancement, or for trading and to assume risk. The Company's derivative instruments can be exchange traded or over-the-counter, with over-the-counter derivatives generally traded under International Swaps and Derivatives Association master agreements, which establish the terms of the transactions entered into with the Company's derivative counterparties. In the event a party becomes insolvent or otherwise defaults on its obligations, a master agreement generally permits the non-defaulting party to accelerate and terminate all outstanding transactions and net the transactions' marked-to-market values so that a single sum in a single currency will be owed by, or owed to, the non-defaulting party. Effectively, this contractual close-out netting reduces credit exposure from gross to net exposure. Where the Company has entered into master netting agreements with counterparties, or the Company has the legal and contractual right to offset positions, the derivative positions are generally netted by counterparty and are reported accordingly in other assets and other liabilities.

The Company is not aware of the existence of any credit-risk related contingent features that it believes would be triggered in its derivative instruments that are in a net liability position at March 31, 2022.

The tables below show the gross and net amounts of recognized derivative assets and liabilities at fair value, including the location on the consolidated balance sheets of the Company's principal derivative instruments:

At March 31, 2022	Derivative Assets					
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Balance Sheet	Net Amounts of Assets Presented in the Balance Sheet	Balance Sheet Location	Collateral Received	Net Amount
Derivative instruments not designated as hedges						
Interest rate futures	$ 1,614	$ —	$ 1,614	Other assets	$ —	$ 1,614
Foreign currency forward contracts (1)	12,590	—	12,590	Other assets	—	12,590
Foreign currency forward contracts (2)	2,156	—	2,156	Other assets	—	2,156
Credit default swaps	170	—	170	Other assets	—	170
Total derivative instruments not designated as hedges	16,530	—	16,530		—	16,530
Derivative instruments designated as hedges						
Total	$ 16,530	$ —	$ 16,530		$ —	$ 16,530

At March 31, 2022	Derivative Liabilities					
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Balance Sheet	Net Amounts of Liabilities Presented in the Balance Sheet	Balance Sheet Location	Collateral Pledged	Net Amount
Derivative instruments not designated as hedges						
Interest rate futures	$ 658	$ —	$ 658	Other liabilities	$ 658	$ —
Foreign currency forward contracts (1)	24,257	—	24,257	Other liabilities	—	24,257
Foreign currency forward contracts (2)	7,569	—	7,569	Other liabilities	—	7,569
Equity futures	4,186	—	4,186	Other liabilities	4,186	—
Total derivative instruments not designated as hedges	36,670	—	36,670		4,844	31,826
Derivative instruments designated as hedges						
Foreign currency forward contracts (3)	3,753	—	3,753	Other liabilities	—	3,753
Total	$ 40,423	$ —	$ 40,423		$ 4,844	$ 35,579

(1) Contracts used to manage foreign currency risks in underwriting and non-investment operations.

(2) Contracts used to manage foreign currency risks in investment operations.

(3) Contracts designated as hedges of net investments in foreign operations.

At December 31, 2021	Derivative Assets					
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Balance Sheet	Net Amounts of Assets Presented in the Balance Sheet	Balance Sheet Location	Collateral Received	Net Amount
Derivative instruments not designated as hedges						
Interest rate futures	$ 1,068	$ —	$ 1,068	Other assets	$ —	$ 1,068
Foreign currency forward contracts [(1)]	13,730	—	13,730	Other assets	—	13,730
Foreign currency forward contracts [(2)]	1,247	—	1,247	Other assets	—	1,247
Credit default swaps	478	—	478	Other assets	—	478
Total derivative instruments not designated as hedges	16,523	—	16,523		—	16,523
Derivative instruments designated as hedges						
Foreign currency forward contracts [(3)]	1,366	—	1,366	Other assets	—	1,366
Total	$ 17,889	$ —	$ 17,889		$ —	$ 17,889

At December 31, 2021	Derivative Liabilities					
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Balance Sheet	Net Amounts of Liabilities Presented in the Balance Sheet	Balance Sheet Location	Collateral Pledged	Net Amount
Derivative instruments not designated as hedges						
Interest rate futures	$ 1,426	$ —	$ 1,426	Other liabilities	$ 1,426	$ —
Foreign currency forward contracts [(1)]	7,880	—	7,880	Other liabilities	—	7,880
Foreign currency forward contracts [(2)]	3,412	—	3,412	Other liabilities	—	3,412
Equity futures	173	—	173	Other liabilities	173	—
Total derivative instruments not designated as hedges	12,891	—	12,891		1,599	11,292
Derivative instruments designated as hedges						
Foreign currency forward contracts [(3)]	4,063	—	4,063	Other liabilities	—	4,063
Total	$ 16,954	$ —	$ 16,954		$ 1,599	$ 15,355

(1) Contracts used to manage foreign currency risks in underwriting and non-investment operations.

(2) Contracts used to manage foreign currency risks in investment operations.

(3) Contracts designated as hedges of net investments in foreign operations.

The location and amount of the gain (loss) recognized in the Company's consolidated statements of operations related to its principal derivative instruments are shown in the following table:

Three months ended March 31	Location of gain (loss) recognized on derivatives	Amount of gain (loss) recognized on derivatives 2022	2021
Derivative instruments not designated as hedges			
Interest rate futures (4)	Net realized and unrealized gains (losses) on investments	$ (28,787)	$ 15,507
Interest rate swaps (4)	Net realized and unrealized gains (losses) on investments	—	(901)
Foreign currency forward contracts (1)	Net foreign exchange gains (losses)	(21,142)	(3,641)
Foreign currency forward contracts (2)	Net foreign exchange gains (losses)	(1,891)	(5,061)
Credit default swaps (4)	Net realized and unrealized gains (losses) on investments	(4,137)	255
Equity futures (5)	Net realized and unrealized gains (losses) on investments	(7,364)	—
Total derivative instruments not designated as hedges		(63,321)	6,159
Derivative instruments designated as hedges			
Foreign currency forward contracts (3)	Accumulated other comprehensive income (loss)	(3,027)	(2,089)
Total derivative instruments designated as hedges		(3,027)	(2,089)
Total		$ (66,348)	$ 4,070

(1) Contracts used to manage foreign currency risks in underwriting and non-investment operations.
(2) Contracts used to manage foreign currency risks in investment operations.
(3) Contracts designated as hedges of net investments in foreign operations.
(4) Fixed income related derivatives included in net realized and unrealized gains (losses) on investment-related derivatives. See "Note 3. Investments" for additional information.
(5) Equity related derivatives included in net realized and unrealized gains (losses) on investment-related derivatives. See "Note 3. Investments" for additional information.

Derivative Instruments Not Designated as Hedges

Interest Rate Derivatives

The Company uses interest rate futures and swaps within its portfolio of fixed maturity investments to manage its exposure to interest rate risk, which may result in increasing or decreasing its exposure to this risk.

Interest Rate Futures

The fair value of interest rate futures is determined using exchange traded prices. At March 31, 2022, the Company had $1.3 billion of notional long positions and $0.5 billion of notional short positions of primarily Eurodollar and U.S. treasury futures contracts (December 31, 2021 - $2.2 billion and $0.5 billion, respectively).

Interest Rate Swaps

The fair value of interest rate swaps is determined using the relevant exchange traded price where available or a discounted cash flow model based on the terms of the contract and inputs, including, where applicable, observable yield curves. At March 31, 2022, the Company had $Nil of notional positions paying a fixed rate and $Nil receiving a fixed rate denominated in U.S. dollar swap contracts (December 31, 2021 - $Nil and $Nil, respectively).

Foreign Currency Derivatives

The Company’s functional currency is the U.S. dollar. The Company writes a portion of its business in currencies other than U.S. dollars and may, from time to time, experience foreign exchange gains and losses in the Company’s consolidated financial statements. The impact of changes in exchange rates on the Company’s assets and liabilities denominated in currencies other than the U.S. dollar, excluding non-monetary assets and liabilities, are recognized in the Company’s consolidated statements of operations.

Underwriting and Non-investments Operations Related Foreign Currency Contracts

The Company’s foreign currency policy with regard to its underwriting operations is generally to enter into foreign currency forward and option contracts for notional values that approximate the foreign currency liabilities, including claims and claim expense reserves and reinsurance balances payable, net of any cash, investments and receivables held in the respective foreign currency. The Company’s use of foreign currency forward and option contracts is intended to minimize the effect of fluctuating foreign currencies on the value of non-U.S. dollar denominated assets and liabilities associated with its underwriting operations. The Company may determine not to match a portion of its projected underwriting related assets or liabilities with underlying foreign currency exposure with investments in the same currencies, which would increase its exposure to foreign currency fluctuations and potentially increase the impact and volatility of foreign exchange gains and losses on its results of operations. The fair value of the Company’s underwriting operations related foreign currency contracts is determined using indicative pricing obtained from counterparties or broker quotes. At March 31, 2022, the Company had outstanding underwriting related foreign currency contracts of $1.1 billion in notional long positions and $270.7 million in notional short positions, denominated in U.S. dollars (December 31, 2021 - $915.0 million and $329.3 million, respectively).

Investment Portfolio Related Foreign Currency Forward Contracts

The Company’s investment operations are exposed to currency fluctuations through its investments in non-U.S. dollar fixed maturity investments, short term investments and other investments. From time to time, the Company may employ foreign currency forward contracts in its investment portfolio to either assume foreign currency risk or to economically hedge its exposure to currency fluctuations from these investments. The fair value of the Company’s investment portfolio related foreign currency forward contracts is determined using an interpolated rate based on closing forward market rates. At March 31, 2022, the Company had outstanding investment portfolio related foreign currency contracts of $244.1 million in notional long positions and $124.7 million in notional short positions, denominated in U.S. dollars (December 31, 2021 - $245.8 million and $131.0 million, respectively).

Credit Derivatives

The Company’s exposure to credit risk is primarily due to its fixed maturity investments, short term investments, premiums receivable and reinsurance recoverable. From time to time, the Company may purchase credit derivatives to manage its exposures in the insurance industry, and to assist in managing the credit risk associated with ceded reinsurance. The Company also employs credit derivatives in its investment portfolio to either assume credit risk or manage its credit exposure.

Credit Default Swaps

The fair value of the Company’s credit default swaps is determined using industry valuation models, broker bid indications or internal pricing valuation techniques. The fair value of these credit default swaps can change based on a variety of factors including changes in credit spreads, default rates and recovery rates, the correlation of credit risk between the referenced credit and the counterparty, and market rate inputs such as interest rates. At March 31, 2022, the Company had outstanding credit default swaps of $Nil in notional positions to hedge credit risk and $124.2 million in notional positions to assume credit risk, denominated in U.S. dollars (December 31, 2021 - $218.5 million).

Total Return Swaps

From time to time, the Company uses total return swaps as a means to manage spread duration and credit exposure in its investment portfolio. The fair value of the Company's total return swaps is determined using broker-dealer bid quotations, market-based prices from pricing vendors or valuation models. At March 31, 2022 and December 31, 2021, the Company had no outstanding total return swaps.

Equity Derivatives

Equity Futures

From time to time, the Company uses equity derivatives in its investment portfolio to either assume equity risk or hedge its equity exposure. The fair value of the Company's equity futures is determined using market-based prices from pricing vendors. At March 31, 2022, the Company had a $290.6 million notional long position of equity futures, denominated in U.S. dollars (December 31, 2021 - $74.3 million).

Derivative Instruments Designated as Hedges of Net Investments in Foreign Operations

Foreign Currency Derivatives

Hedges of Net Investments in Foreign Operations

Certain of the Company's subsidiaries use non-U.S. dollar functional currencies. The Company, from time to time, enters into foreign exchange forwards to hedge currencies, which includes hedges of net investments in foreign operations, on an after-tax basis, from changes in the exchange rate between the U.S. dollar and these currencies. These currencies included the Australian dollar as of March 31, 2022, and both the Australian dollar and Euro as of March 31, 2021.

The Company utilizes foreign exchange forward contracts to hedge the fair value of its net investment in a foreign operation. The Company has entered into foreign exchange forward contracts that were formally designated as hedges of its investment in subsidiaries with non-U.S. dollar functional currencies. There was no ineffectiveness in these transactions.

The table below provides a summary of derivative instruments designated as hedges of net investments in foreign operations, including the weighted average U.S. dollar equivalent of foreign denominated net (liabilities) assets that were hedged and the resulting derivative gains (losses) that are recorded in foreign currency translation adjustments, net of tax, within accumulated other comprehensive income (loss) on the Company's consolidated statements of changes in shareholders' equity:

	Three months ended	
	March 31, 2022	March 31, 2021
Weighted average of U.S. dollar equivalent of foreign denominated net assets (liabilities)	$ 90,271	$ (97,219)
Derivative gains (losses) (1)	$ (3,027)	$ (2,089)

(1) Derivative gains (losses) from derivative instruments designated as hedges of the net investment in a foreign operation are recorded in foreign currency translation adjustments, net of tax, within accumulated other comprehensive income (loss) on the Company's consolidated statements of changes in shareholders' equity.

NOTE 14. COMMITMENTS, CONTINGENCIES AND OTHER ITEMS

There are no material changes from the commitments, contingencies and other items previously disclosed in the Company's Form 10-K for the year ended December 31, 2021.

Legal Proceedings

The Company and its subsidiaries are subject to lawsuits and regulatory actions in the normal course of business that do not arise from or directly relate to claims on reinsurance treaties or contracts or direct surplus lines insurance policies. In the Company's industry, business litigation may involve allegations of underwriting or claims-handling errors or misconduct, disputes relating to the scope of, or compliance with, the terms of delegated underwriting agreements, employment claims, regulatory actions or disputes arising from the Company's business ventures. The Company's operating subsidiaries are subject to claims litigation involving, among other things, disputed interpretations of policy coverages. Generally, the Company's direct surplus lines insurance operations are subject to greater frequency and diversity of claims and claims-related litigation than its reinsurance operations and, in some jurisdictions, may be subject to direct actions by allegedly injured persons or entities seeking damages from policyholders. These lawsuits, involving or arising out of claims on policies issued by the Company's subsidiaries which are typical to the insurance industry in general and in the normal course of business, are considered in its loss and loss expense reserves. In addition, the Company may from time to time engage in litigation or arbitration related to its claims for payment in respect of ceded reinsurance, including disputes that challenge the Company's ability to enforce its underwriting intent. Such matters could result, directly or indirectly, in providers of protection not meeting their obligations to the Company or not doing so on a timely basis. The Company may also be subject to other disputes from time to time, relating to operational or other matters distinct from insurance or reinsurance claims. Any litigation or arbitration, or regulatory process contains an element of uncertainty, and the value of an exposure or a gain contingency related to a dispute is difficult to estimate. The Company believes that no individual litigation or arbitration to which it is presently a party is likely to have a material adverse effect on its financial condition, business or operations.

NOTE 15. SUBSEQUENT EVENTS

Effective April 1, 2022, Fontana launched with capital commitments of $475.0 million, comprised of $325.0 million from third-party investors and $150.0 million from the Company. In April 2022, $400.0 million of this amount had been funded, comprised of $273.7 million from third-party investors and $126.3 million from the Company.

Subsequent to March 31, 2022, Medici issued $147.0 million of non-voting preference shares to investors, including $10.0 million to the Company. $67.0 million of the non-voting preference shares issued was received in advance, from investors other than the Company, and is included in other liabilities on the Company’s consolidated balance sheet, and also included in other operating cash flows on the Company’s consolidated statements of cash flows for the quarter ended March 31, 2022. The Company’s noncontrolling economic ownership in Medici subsequent to these transactions was 13.0%.

Effective April 1, 2022, the Company purchased an aggregate of $74.1 million shares in DaVinciRe from a third-party investor. The Company’s noncontrolling economic ownership in DaVinciRe subsequent to this transaction was 33.8%.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following is a discussion and analysis of our results of operations for the three months ended March 31, 2022 and 2021, as well as our liquidity and capital resources at March 31, 2022. This discussion and analysis should be read in conjunction with the unaudited consolidated financial statements and notes thereto included in this filing and the audited consolidated financial statements and notes thereto contained in our Form 10-K for the fiscal year ended December 31, 2021. This filing contains forward-looking statements that involve risks and uncertainties. Actual results may differ materially from the results described or implied by these forward-looking statements. See “Note on Forward-Looking Statements.”

In this Form 10-Q, references to “RenaissanceRe” refer to RenaissanceRe Holdings Ltd. (the parent company) and references to “we,” “us,” “our” and the “Company” refer to RenaissanceRe Holdings Ltd. together with its subsidiaries, unless the context requires otherwise. Defined terms used throughout this Form 10-Q are included in the “Glossary of Defined Terms” at the beginning of this Form 10-Q.

All dollar amounts referred to in this Form 10-Q are in U.S. dollars unless otherwise indicated.

Due to rounding, numbers presented in the tables included in this Form 10-Q may not add up precisely to the totals provided.

INDEX TO MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

RenaissanceRe is a global provider of reinsurance and insurance. We provide property, casualty and specialty reinsurance and certain insurance solutions to customers, principally through intermediaries. Established in 1993, we have offices in Bermuda, Australia, Ireland, Singapore, Switzerland, the U.K., and the U.S. To best serve our clients in the places they do business, we have operating subsidiaries, branches, joint ventures, managed funds and underwriting platforms around the world. Our operating subsidiaries include Renaissance Reinsurance, Renaissance Reinsurance U.S., RenaissanceRe Specialty U.S., RREAG, Renaissance Reinsurance of Europe and our Lloyd’s syndicate, Syndicate 1458. We write property and casualty and specialty reinsurance through our wholly-owned operating subsidiaries, joint ventures, managed funds and Syndicate 1458 and certain insurance products primarily through Syndicate 1458 and RenaissanceRe Specialty U.S. Syndicate 1458 provides us with access to Lloyd’s extensive distribution network and worldwide licenses, and also writes business through delegated authority arrangements. We also underwrite reinsurance on behalf of joint ventures, including DaVinci, Fontana, Top Layer Re, Upsilon RFO and Vermeer. In addition, through Medici, we invest in various insurance-based investment instruments that have returns primarily tied to property catastrophe risk.

Our mission is to match desirable, well-structured risks with efficient sources of capital to achieve our vision of being the best underwriter. We believe that this will allow us to produce superior returns for our shareholders over the long term, and to further our purpose of protecting communities and enabling prosperity. We seek to accomplish these goals by being a trusted, long-term partner to our customers for assessing and managing risk, delivering responsive and innovative solutions, leveraging our core capabilities of risk assessment and information management, investing in these core capabilities in order to serve our customers across market cycles, and keeping our promises. Our strategy focuses on superior risk selection, superior customer relationships and superior capital management. We provide value to our customers and joint venture and managed fund partners in the form of financial security, innovative products, and responsive service. We are known as a leader in paying valid claims promptly. We principally measure our financial success through long-term growth in tangible book value per common share plus the change in accumulated dividends. We believe this metric is the most appropriate measure of our financial performance, and in respect of which we believe we have delivered superior performance over time. The principal drivers of our profit are underwriting income, investment income, and fee income generated by our third-party capital management business.

Our core products include property, casualty and specialty reinsurance, and certain insurance products principally distributed through intermediaries, with whom we have cultivated strong long-term relationships. We believe we have been one of the world’s leading providers of catastrophe reinsurance since our founding. In recent years, through the strategic execution of several initiatives, including organic growth and acquisitions, we have expanded and diversified our casualty and specialty platform and products, and believe we are a leader in certain casualty and specialty lines of business.

Our current business strategy focuses predominantly on writing reinsurance, although as we grow our casualty and specialty and other property lines of business, we are increasingly writing excess and surplus lines insurance through delegated authority arrangements. We also pursue a number of other opportunities, such as creating and managing our joint ventures and managed funds, executing customized reinsurance transactions to assume or cede risk, and managing certain strategic investments directed at classes of risk other than catastrophe reinsurance. From time to time we consider diversification into new ventures, either through organic growth, the formation of new joint ventures or managed funds, or the acquisition of, or the investment in, other companies or books of business of other companies.

We have determined our business consists of the following reportable segments: (1) Property, which is comprised of catastrophe and other property (re)insurance written on behalf of our operating subsidiaries, joint ventures and managed funds, and (2) Casualty and Specialty, which is comprised of casualty and specialty (re)insurance written on behalf of our operating subsidiaries, joint ventures and managed funds.

The underwriting results of our operating subsidiaries and underwriting platforms are included in our Property and Casualty and Specialty segment results as appropriate.

A meaningful portion of the reinsurance and insurance we write provides protection from damages relating to natural and man-made catastrophes. Our results depend to a large extent on the frequency and severity of these catastrophic events, and the coverages we offer to customers that are affected by these events. We are exposed to significant losses from these catastrophic events and other exposures we cover, which primarily impact our Property segment, in both the property catastrophe and other property lines of business. Accordingly, we expect a significant degree of volatility in our financial results and our financial results may vary significantly from quarter-to-quarter and from year-to-year, based on the level of insured catastrophic losses occurring around the world. Our Casualty and Specialty business, which represents approximately half of our gross premiums written annually, is an efficient use of capital that is generally less correlated with our Property business. It allows us to bring additional capacity to our clients, across a wider range of product offerings, while continuing to be good stewards of our shareholders' capital.

We continually explore appropriate and efficient ways to address the risk needs of our clients and the impact of various regulatory and legislative changes on our operations. We have created and manage multiple capital vehicles across several jurisdictions and may create additional risk bearing vehicles or enter into additional jurisdictions in the future. In addition, our differentiated strategy and capabilities position us to pursue bespoke or large solutions for clients, which may be non-recurring. This, and other factors including the timing of contract inception, could result in significant volatility of premiums in both our Property and Casualty and Specialty segments. As our product and geographical diversity increases, we may be exposed to new risks, uncertainties and sources of volatility.

Our revenues are principally derived from three sources: (1) net premiums earned from the reinsurance and insurance policies we sell; (2) net investment income and net realized and unrealized gains from the investment of our capital funds and the investment of the cash we receive on the policies which we sell; and (3) fees received from our joint ventures, managed funds, and structured reinsurance products.

Our expenses primarily consist of: (1) net claims and claim expenses incurred on the policies of reinsurance and insurance we sell; (2) acquisition costs, which typically represent a percentage of the premiums we write; (3) operating expenses, which primarily consist of personnel expenses, rent and other operating expenses; (4) corporate expenses, which include certain executive, legal and consulting expenses, costs for research and development, transaction and integration-related expenses, and other miscellaneous costs, including those associated with operating as a publicly traded company; (5) redeemable noncontrolling interests, which represent the interests of third parties with respect to the net income of DaVinciRe, Medici and Vermeer; and (6) interest and dividends related to our debt and preference shares. We are also subject to taxes in certain jurisdictions in which we operate. Since the majority of our income is currently earned in Bermuda, which does not have a corporate income tax, the tax impact to our operations has historically been minimal. In the future, our net tax exposure may increase as our operations expand geographically, or as a result of adverse tax developments.

The underwriting results of an insurance or reinsurance company are discussed frequently by reference to its net claims and claim expense ratio, underwriting expense ratio, and combined ratio. The net claims and claim expense ratio is calculated by dividing net claims and claim expenses incurred by net premiums earned. The underwriting expense ratio is calculated by dividing underwriting expenses (acquisition expenses and operational expenses) by net premiums earned. The combined ratio is the sum of the net claims and claim expense ratio and the underwriting expense ratio. A combined ratio below 100% indicates profitable underwriting prior to the consideration of investment income. A combined ratio over 100% indicates unprofitable underwriting prior to the consideration of investment income. We also discuss our net claims and claim expense ratio on a current accident year basis and a prior accident years basis. The current accident year net claims and claim expense ratio is calculated by taking current accident year net claims and claim expenses incurred, divided by net premiums earned. The prior accident years net claims and claim expense ratio is calculated by taking prior accident years net claims and claim expenses incurred, divided by net premiums earned.

Segments

Our reportable segments are defined as follows: (1) Property, which is comprised of catastrophe and other property reinsurance and insurance written on behalf of our operating subsidiaries and certain joint ventures and managed funds, and (2) Casualty and Specialty, which is comprised of casualty and specialty reinsurance and insurance written on behalf of our operating subsidiaries and certain joint ventures and managed funds. In addition to our two reportable segments, we have an Other category, which primarily includes our strategic investments, investments unit, corporate expenses, capital servicing costs, noncontrolling interests and certain expenses related to acquisitions and disposals.

Effects of Inflation

General economic inflation has increased and there is a risk of inflation remaining elevated for an extended period, which could cause claims and claim expenses to increase, impact the performance of our investment portfolio or have other adverse effects. This risk may be exacerbated by the steps taken by governments and central banks throughout the world in responding to the COVID-19 pandemic. The actual effects of the current and potential future increase in inflation on our results cannot be accurately known until, among other items, claims are ultimately settled. The onset, duration and severity of an inflationary period cannot be estimated with precision. We consider the anticipated effects of inflation on us in our catastrophe loss models and on our investment portfolio. Our estimates of the potential effects of inflation are also considered in pricing and in estimating reserves for unpaid claims and claim expenses. The potential exists, after a catastrophe loss, for the development of inflationary pressures in a local economy.

COVID-19 Pandemic

Due to the ongoing nature of the COVID-19 pandemic, we are continuing to evaluate its impact on our business, operations and financial condition, including our potential loss exposures. We continue to expect historically significant industry losses to emerge over time as the full impact of the pandemic and its effects on the global economy are realized.

SUMMARY OF CRITICAL ACCOUNTING ESTIMATES

Our critical accounting estimates include “Claims and Claim Expense Reserves,” “Premiums and Related Expenses,” “Reinsurance Recoverables,” “Fair Value Measurements and Impairments” and “Income Taxes,” and are discussed in Management’s Discussion and Analysis of Financial Condition and Results of Operations in our Form 10-K for the year ended December 31, 2021. There have been no material changes to our critical accounting estimates as disclosed in our Form 10-K for the year ended December 31, 2021.

SUMMARY OF RESULTS OF OPERATIONS

Below is a discussion of the results of operations for the first quarter of 2022, compared to the first quarter of 2021.

Three months ended March 31 (in thousands, except per share amounts and percentages)	2022	2021	Change
Statement of operations highlights			
Gross premiums written	$ 2,942,964	$ 2,652,442	$ 290,522
Net premiums written	$ 2,165,217	$ 1,824,083	$ 341,134
Net premiums earned	$ 1,486,425	$ 1,153,836	$ 332,589
Net claims and claim expenses incurred	841,733	867,051	(25,318)
Acquisition expenses	376,507	267,234	109,273
Operational expenses	67,907	55,311	12,596
Underwriting income (loss)	$ 200,278	$ (35,760)	$ 236,038
Net investment income	$ 83,691	$ 79,804	$ 3,887
Net realized and unrealized gains (losses) on investments	(673,017)	(345,563)	(327,454)
Total investment result	$ (589,326)	$ (265,759)	$ (323,567)
Net income (loss)	$ (397,481)	$ (330,495)	$ (66,986)
Net income (loss) available (attributable) to RenaissanceRe common shareholders	$ (394,413)	$ (290,934)	$ (103,479)
Net income (loss) available (attributable) to RenaissanceRe common shareholders per common share – diluted	$ (9.10)	$ (5.87)	$ (3.23)
Dividends per common share	$ 0.37	$ 0.36	$ 0.01
Key ratios			
Net claims and claim expense ratio – current accident year	57.8 %	75.9 %	(18.1)%
Net claims and claim expense ratio – prior accident years	(1.2)%	(0.8)%	(0.4)%
Net claims and claim expense ratio – calendar year	56.6 %	75.1 %	(18.5)%
Underwriting expense ratio	29.9 %	28.0 %	1.9 %
Combined ratio	86.5 %	103.1 %	(16.6)%
Return on average common equity - annualized	(28.1)%	(17.1)%	(11.0)%
Book value	March 31, 2022	December 31, 2021	Change
Book value per common share	$ 121.44	$ 132.17	$ (10.73)
Accumulated dividends per common share	23.89	23.52	0.37
Book value per common share plus accumulated dividends	$ 145.33	$ 155.69	$ (10.36)
Change in book value per common share plus change in accumulated dividends	**(7.8)%**		

Net loss attributable to RenaissanceRe common shareholders was $394.4 million in the first quarter of 2022, compared to net loss attributable to RenaissanceRe common shareholders of $290.9 million in the first quarter of 2021, a decrease of $103.5 million. As a result of our net loss attributable to RenaissanceRe common shareholders in the first quarter of 2022, we generated an annualized return on average common equity of negative 28.1% and our book value per common share decreased from $132.17 at December 31, 2021 to $121.44 at March 31, 2022, a 7.8% decrease, after considering the change in accumulated dividends paid to our common shareholders.

The most significant items affecting our financial performance during the first quarter of 2022, on a comparative basis to the first quarter of 2021, include:

- *Investment Results* - our total investment result, which includes the sum of net investment income and net realized and unrealized (losses) gains on investments, was a loss of $589.3 million in the first quarter of 2022, compared to a loss of $265.8 million in the first quarter of 2021. The primary driver of the lower total investment result in the first quarter of 2022 was net realized and unrealized losses on investments of $673.0 million, principally within our fixed maturity and equity investments trading portfolios. The investment results in the first quarter of 2021 were impacted by realized and unrealized losses on our fixed maturity and equity investments trading portfolios

- *Impact of Weather-Related Large Losses and the Russia-Ukraine War* - we had a net negative impact on net loss attributable to RenaissanceRe common shareholders of $67.9 million resulting from the Q1 2022 Weather-Related Large Losses (as defined below) and $24.9 million resulting from losses related to the Russia-Ukraine War. This compares to a net negative impact on net loss attributable to RenaissanceRe common shareholders of $179.8 million resulting from Winter Storm Uri in the first quarter of 2021;

- *Underwriting Results* - we generated underwriting income of $200.3 million and had a combined ratio of 86.5% in the first quarter of 2022, compared to an underwriting loss of $35.8 million and a combined ratio of 103.1% in the first quarter of 2021. Our underwriting income in the first quarter of 2022 was comprised of our Property segment, which generated underwriting income of $184.8 million and had a combined ratio of 70.1%, and our Casualty and Specialty segment, which generated underwriting income of $15.5 million and had a combined ratio of 98.2%. In comparison, our underwriting loss in the first quarter of 2021 was comprised of our Property segment, which generated an underwriting loss of $41.8 million, and our Casualty and Specialty segment, which generated underwriting income of $6.0 million;

  Our underwriting results in the first quarter of 2022 were principally impacted by the Q1 2022 Weather-Related Large Losses, which resulted in a net negative impact on the underwriting result of $102.3 million and added 7.0 percentage points to the consolidated combined ratio, all in the Property segment. In addition, losses from the Russia-Ukraine War had a net negative impact on the underwriting result of $27.1 million and added 1.8 percentage points to the consolidated combined ratio, all in the Casualty and Specialty segment. The first quarter of 2021 was impacted by Winter Storm Uri, which resulted in a net negative impact on the underwriting result of $291.5 million and added 26.9 percentage points to the combined ratio;

- *Gross Premiums Written* - our gross premiums written increased by $290.5 million, or 11.0%, to $2.9 billion, in the first quarter of 2022, compared to the first quarter of 2021. This was comprised of an increase of $563.8 million in our Casualty and Specialty segment offset in part by a decrease of $273.3 million in our Property segment. In our Property segment, gross premiums written included reinstatement premiums of $11.0 million associated with the Q1 2022 Weather-Related Large Losses in the first quarter of 2022, as compared to $90.1 million of reinstatement premiums associated with Winter Storm Uri in the first quarter of 2021; and

- *Net Loss Attributable to Redeemable Noncontrolling Interests* - our net loss attributable to redeemable noncontrolling interests was $11.9 million in the first quarter of 2022, compared to net loss attributable to redeemable noncontrolling interests of $46.9 million in the first quarter of 2021. This change was primarily driven by a lower impact of losses resulting from the Q1 2022 Weather-Related Large Losses as compared to Winter Storm Uri in the first quarter of 2021.

Net Negative Impact

Net negative impact on underwriting result includes the sum of (1) net claims and claim expenses incurred, (2) assumed and ceded reinstatement premiums earned and (3) earned and lost profit commissions. Net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders is the sum of (1) net negative impact on underwriting result and (2) redeemable noncontrolling interest, both before consideration of any related income tax benefit (expense).

Our estimates of net negative impact are based on a review of our potential exposures, preliminary discussions with certain counterparties and actuarial modeling techniques. Our actual net negative impact, both individually and in the aggregate, may vary from these estimates, perhaps materially. Changes in these estimates will be recorded in the period in which they occur.

Meaningful uncertainty remains regarding the estimates and the nature and extent of the losses from catastrophe events, driven by the magnitude and recent nature of each event, the geographic areas impacted by the events, relatively limited claims data received to date, the contingent nature of business interruption and other exposures, potential uncertainties relating to reinsurance recoveries and other factors inherent in loss estimation, among other things.

In February 2022, Russia launched an invasion into Ukraine. There is uncertainty associated with the scale, duration and impact of this situation, which we continue to actively monitor. Our loss estimates represent our best estimate of incurred losses based on currently available information, and actual losses may vary materially from these estimates.

Q1 2022 Net Negative Impact

The financial data below provides additional information detailing the net negative impact on our consolidated financial statements in the first quarter of 2022 from the Q1 2022 Weather-Related Large Losses.

Three months ended March 31, 2022		**Q1 2022 Weather-Related Large Losses (1)**
(in thousands)		
Net claims and claims expenses incurred	$	(112,933)
Assumed reinstatement premiums earned		10,967
Ceded reinstatement premiums earned		(299)
Earned (lost) profit commissions		—
Net negative impact on underwriting result		(102,265)
Redeemable noncontrolling interest		34,347
Net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders	$	(67,918)

The financial data below provides additional information detailing the net negative impact of the Q1 2022 Weather-Related Large Losses on our segment underwriting results and consolidated combined ratio in the first quarter of 2022.

Three months ended March 31, 2022		**Q1 2022 Weather-Related Large Losses (1)**
(in thousands, except percentages)		
Net negative impact on Property segment underwriting result	$	(102,265)
Net negative impact on Casualty and Specialty segment underwriting result		—
Net negative impact on underwriting result	$	(102,265)
Percentage point impact on consolidated combined ratio		7.0

(1) "Q1 2022 Weather-Related Large Losses" includes the Australian Floods which impacted Eastern Australia in February and March 2022, and Storm Eunice which impacted several areas in Europe in February 2022.

Russia-Ukraine War Losses

In the first quarter of 2022, losses related to Russia's invasion of Ukraine resulted in a net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders of $24.9 million. This reflects net claims and claims expenses incurred and a net negative impact on underwriting result of $27.1 million, which was solely in the Casualty and Specialty segment, partially offset by redeemable noncontrolling interest of $2.2 million. The net negative impact on underwriting result had a 1.8 percentage point impact on the consolidated combined ratio.

Q1 2021 Net Negative Impact

The financial data in the table below provides additional information detailing the net negative impact of the Winter Storm Uri on our consolidated financial statements in the first quarter of 2021.

Three months ended March 31, 2021 (in thousands)		Winter Storm Uri
Net claims and claims expenses incurred	$	(372,894)
Assumed reinstatement premiums earned		91,191
Ceded reinstatement premiums earned		(10,570)
Earned (lost) profit commissions		773
Net negative impact on underwriting result		(291,500)
Redeemable noncontrolling interest		111,666
Net negative impact on net income (loss) available (attributable) to RenaissanceRe common shareholders	$	(179,834)

The financial data below provides additional information detailing the net negative impact of Winter Storm Uri on our segment underwriting results and consolidated combined ratio in the first quarter of 2021.

Three months ended March 31, 2021 (in thousands, except percentages)		Winter Storm Uri
Net negative impact on Property segment underwriting result	$	(288,470)
Net negative impact on Casualty and Specialty segment underwriting result		(3,030)
Net negative impact on underwriting result	$	(291,500)
Percentage point impact on consolidated combined ratio		26.9

Underwriting Results by Segment

Property Segment

Below is a summary of the underwriting results and ratios for our Property segment:

Three months ended March 31 (in thousands, except percentages)	2022	2021	Change
Gross premiums written	$ 1,343,508	$ 1,616,819	$ (273,311)
Net premiums written	$ 890,166	$ 1,008,460	$ (118,294)
Net premiums earned	$ 618,591	$ 605,166	$ 13,425
Net claims and claim expenses incurred	259,761	498,832	(239,071)
Acquisition expenses	127,096	112,754	14,342
Operational expenses	46,932	35,375	11,557
Underwriting income (loss)	$ 184,802	$ (41,795)	$ 226,597
Net claims and claim expenses incurred – current accident year	$ 276,519	$ 503,994	$ (227,475)
Net claims and claim expenses incurred – prior accident years	(16,758)	(5,162)	(11,596)
Net claims and claim expenses incurred – total	$ 259,761	$ 498,832	$ (239,071)
Net claims and claim expense ratio – current accident year	44.7 %	83.3 %	(38.6)%
Net claims and claim expense ratio – prior accident years	(2.7)%	(0.9)%	(1.8)%
Net claims and claim expense ratio – calendar year	42.0 %	82.4 %	(40.4)%
Underwriting expense ratio	28.1 %	24.5 %	3.6 %
Combined ratio	70.1 %	106.9 %	(36.8)%

Property Gross Premiums Written

In the first quarter of 2022, our Property segment gross premiums written decreased by $273.3 million, or 16.9%, to $1.3 billion, compared to $1.6 billion in the first quarter of 2021.

Gross premiums written in the catastrophe class of business were $886.1 million in the first quarter of 2022, a decrease of $245.0 million, or 21.7%, compared to the first quarter of 2021. The decrease in gross premiums written in the catastrophe class of business in the first quarter of 2022 was primarily driven by a $175.5 million reduction in Upsilon RFO, the majority of which is attributable to third party investors in Upsilon RFO and, accordingly, resulted in a corresponding reduction in ceded premiums written, as discussed below, and a $79.1 million change in assumed reinstatement premiums following a lower level of catastrophe losses in the first quarter of 2022 as compared to the first quarter of 2021. Excluding Upsilon RFO and the impact of the reinstatement premiums in each of the respective periods, gross premiums written in the catastrophe class of business are relatively constant from the comparative period.

Gross premiums written in the other property class of business were $457.4 million in the first quarter of 2022, a decrease of $28.3 million, or 5.8%, compared to the first quarter of 2021. The decrease in gross premiums written in the other property class of business was principally due to the planned non-renewal of certain deals which is partially offset by growth and rate improvement across other areas within this class of business.

Property Ceded Premiums Written

Three months ended March 31 (in thousands)	2022	2021	Change
Ceded premiums written	$ 453,342	$ 608,359	$ (155,017)

Ceded premiums written in our Property segment were $453.3 million in the first quarter of 2022, a decrease of $155.0 million, or 25.5%, compared to the first quarter of 2021. The decrease in ceded premiums written was driven by the reduction in premiums ceded to Upsilon third party investors following a reduction in the size of the Upsilon vehicle, and a corresponding decrease in gross premiums written, as discussed above.

Property Net Premiums Written

Three months ended March 31 (in thousands)	2022	2021	Change
Net premiums written	$ 890,166	$ 1,008,460	$ (118,294)

Net premiums written in our Property segment were $890.2 million in the first quarter of 2022, a decrease of $118.3 million, or 11.7%, compared to the first quarter of 2021. This decrease was driven by a $69.0 million decrease in net reinstatement premiums, as well as the decrease in gross premiums written in the other property class of business.

Property Underwriting Results

Our Property segment generated underwriting income of $184.8 million in the first quarter of 2022, compared to an underwriting loss of $41.8 million in the first quarter of 2021. In the first quarter of 2022, our Property segment generated a net claims and claim expense ratio of 42.0%, an underwriting expense ratio of 28.1% and a combined ratio of 70.1%, compared to 82.4%, 24.5% and 106.9%, respectively, in the first quarter of 2021.

Principally impacting the underwriting result and combined ratio in the first quarter of 2022 were the Q1 2022 Weather-Related Large Losses, which resulted in a net negative impact on the Property segment underwriting result of $102.3 million and added 17.3 percentage points to the Property segment combined ratio. In comparison, the first quarter of 2021 was principally impacted by Winter Storm Uri, which resulted in a net negative impact on the Property segment underwriting result of $288.5 million and added 53.9 percentage points to the Property segment combined ratio.

The net claims and claim expense ratio decreased 40.4 percentage points, primarily as a result of a lower impact from the Q1 2022 Weather-Related Large Losses, as compared to Winter Storm Uri in the first quarter of 2021, as well as net favorable development on prior accident years principally from weather-related large losses in the 2017 to 2020 accident years.

The underwriting expense ratio increased 3.6 percentage points, driven by a deterioration of 1.9 percentage points in the acquisition expense ratio as well as 1.8 percentage points in the operating expense ratio, both primarily driven by a quarter-over-quarter reduction in reinstatement premiums due to a lower level of weather-related large losses.

See “Note 6. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” for additional information related to the development of prior accident years net claims and claim expenses.

Casualty and Specialty Segment

Below is a summary of the underwriting results and ratios for our Casualty and Specialty segment:

Three months ended March 31 (in thousands, except percentages)	2022	2021	Change
Gross premiums written	$ 1,599,456	$ 1,035,623	$ 563,833
Net premiums written	$ 1,275,051	$ 815,623	$ 459,428
Net premiums earned	$ 867,834	$ 548,670	$ 319,164
Net claims and claim expenses incurred	581,972	368,219	213,753
Acquisition expenses	249,411	154,480	94,931
Operational expenses	20,975	19,936	1,039
Underwriting income (loss)	$ 15,476	$ 6,035	$ 9,441
Net claims and claim expenses incurred – current accident year	$ 583,047	$ 372,089	$ 210,958
Net claims and claim expenses incurred – prior accident years	(1,075)	(3,870)	2,795
Net claims and claim expenses incurred – total	$ 581,972	$ 368,219	$ 213,753
Net claims and claim expense ratio – current accident year	67.2 %	67.8 %	(0.6)%
Net claims and claim expense ratio – prior accident years	(0.1)%	(0.7)%	0.6 %
Net claims and claim expense ratio – calendar year	67.1 %	67.1 %	— %
Underwriting expense ratio	31.1 %	31.8 %	(0.7)%
Combined ratio	98.2 %	98.9 %	(0.7)%

Casualty and Specialty Gross Premiums Written

In the first quarter of 2022, our Casualty and Specialty segment gross premiums written increased by $563.8 million, or 54.4%, to $1.6 billion, compared to $1.0 billion in the first quarter of 2021. The growth was across all lines of business, however principally in the professional liability and general casualty lines of business. This growth was primarily driven by increases in new and existing business written in the current and prior periods, combined with rate improvements.

Our relative mix of business between proportional business and excess of loss business has fluctuated in the past and will likely continue to do so in the future. Proportional business typically has a higher expense ratio and tends to be exposed to more attritional and frequent losses, while being subject to less expected severity as compared to traditional excess of loss business.

Casualty and Specialty Ceded Premiums Written

Three months ended March 31 (in thousands)	2022	2021	Change
Ceded premiums written	$ 324,405	$ 220,000	$ 104,405

Ceded premiums written in our Casualty and Specialty segment increased by $104.4 million, to $324.4 million in the first quarter of 2022, compared to $220.0 million in the first quarter of 2021, primarily driven by the increase in gross premiums written subject to our retrocessional quota share reinsurance programs.

As in our Property segment, the purchase of ceded reinsurance protection in our Casualty and Specialty segment is based on market opportunities and is not based on placing a specific reinsurance program each year.

Casualty and Specialty Net Premiums Written

Three months ended March 31 (in thousands)	2022	2021	Change
Net premiums written	$ 1,275,051	$ 815,623	$ 459,428

Net premiums written in our Casualty and Specialty segment increased by $459.4 million, or 56.3%, to $1.3 billion in the first quarter of 2022, compared to $815.6 million in the first quarter of 2021, primarily driven by growth in the casualty lines of business, consistent with the changes in gross premiums written.

Casualty and Specialty Underwriting Results

Our Casualty and Specialty segment generated underwriting income of $15.5 million in the first quarter of 2022, compared to $6.0 million in the first quarter of 2021. In the first quarter of 2022, our Casualty and Specialty segment generated a net claims and claim expense ratio of 67.1%, an underwriting expense ratio of 31.1% and a combined ratio of 98.2%, compared to 67.1%, 31.8% and 98.9%, respectively, in the first quarter of 2021.

The decrease in the Casualty and Specialty segment combined ratio in the first quarter of 2022 was driven by the decrease of 0.7 percentage points in the underwriting expense ratio.

The net claims and claim expense ratio was unchanged from the first quarter of 2021. Included in the first quarter of 2022 is the impact of the Russia-Ukraine War, which added 3.1 percentage points of losses to the current accident year net claims and claim expense ratio.

The decrease in both the underwriting expense ratio and the combined ratio in the first quarter of 2022, as compared to the first quarter of 2021, was principally due to a 1.2 percentage point improvement in the operating expense ratio driven by improved operating leverage, partly offset by a 0.5 percentage point increase in the net acquisition expense ratio due to slightly higher costs associated with the casualty book.

See “Note 6. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” for additional information related to the development of prior accident years net claims and claim expenses.

Fee Income

Three months ended March 31 (in thousands)	2022	2021	Change
Management Fee Income			
Joint ventures	$ 13,395	$ 11,128	$ 2,267
Structured reinsurance products	7,224	8,774	(1,550)
Managed funds	6,603	8,622	(2,019)
Total management fee income	27,222	28,524	(1,302)
Performance Fee Income			
Joint ventures	(103)	1,556	(1,659)
Structured reinsurance products	934	(1,293)	2,227
Managed funds	296	(4,798)	5,094
Total performance fee income	1,127	(4,535)	5,662
Total fee income	$ 28,349	$ 23,989	$ 4,360

The table above shows total fee income earned through third-party capital management activities, including various joint ventures, managed funds and certain structured retrocession agreements to which we are a party. Performance fees are based on the performance of the individual vehicles or products, and may be zero or negative in a particular period if, for example, large losses occur, which can potentially result in no performance fees or the reversal of previously accrued performance fees. Joint ventures include DaVinciRe, Top Layer Re, Vermeer and certain entities investing in Langhorne Holdings LLC. Managed funds include Upsilon Fund and Medici. Structured reinsurance products and other includes certain reinsurance contracts and certain other vehicles through which we transfer risk to capital.

In the first quarter of 2022, total fee income earned through third-party capital management activities increased $4.4 million, to $28.3 million, compared to $24.0 million in the first quarter of 2021, primarily due to lower performance fee income in the first quarter of 2021 compared to the first quarter of 2022. The lower performance fee in 2021 was driven by the impact of Winter Storm Uri losses on the results of the Company's joint ventures and managed funds. The performance fee in 2022, although favorable compared to the first quarter of 2021, continued to be negatively impacted by the underwriting deficit carried forward from weather-related losses in 2021. This increase in performance fee income was partially offset by lower management fee income, primarily due to the reduced size of the Company's structured reinsurance products and lower capital managed at Upsilon, partially offset by increased capital managed at DaVinciRe, Medici and Vermeer.

The fees earned through third-party capital management activities are principally recorded through redeemable noncontrolling interest, or as an increase to underwriting income (reduction to underwriting loss), through a decrease in operating expenses or acquisition expenses, as detailed in the table below.

Three months ended March 31 (in thousands)	2022	2021	Change
Underwriting income (loss) - fee income on third-party capital management activities (1)	$ 12,161	$ 10,530	$ 1,631
Equity in earnings of other ventures	23	16	7
Net income (loss) attributable to redeemable noncontrolling interest	16,165	13,443	2,722
Total fee income	28,349	23,989	4,360

(1) Reflects total fee income earned through third-party capital management activities recorded through underwriting income (loss) as a decrease (increase) to operating expenses or acquisition expenses.

In addition to the $28.3 million of fee income earned through our third-party capital management activities described above, we earned $20.9 million of additional fees on other underwriting-related activities, primarily related to expense overrides paid to us by our reinsurers. These additional fees on other underwriting-related activities are recorded as a reduction to operating expenses or acquisition expenses, as applicable. The total fees recorded through underwriting income (loss) are detailed in the table below.

Three months ended March 31 (in thousands)		2022		2021		Change
Underwriting income (loss) - fee income on third-party capital management activities	$	12,161	$	10,530	$	1,631
Underwriting income (loss) - additional fee income on other underwriting-related activities		20,945		14,604		6,341
Total fees recorded through underwriting income (loss)		33,106		25,134		7,972
Impact of total fees recorded through underwriting income (loss) on the combined ratio		2.2 %		2.2 %		— %

Net Investment Income

Three months ended March 31 (in thousands)		2022		2021		Change
Fixed maturity investments trading	$	62,417	$	62,933	$	(516)
Short term investments		1,136		573		563
Equity investments trading		2,754		1,491		1,263
Other investments						
Catastrophe bonds		17,360		14,468		2,892
Other		5,552		3,801		1,751
Cash and cash equivalents		(41)		102		(143)
		89,178		83,368		5,810
Investment expenses		(5,487)		(3,564)		(1,923)
Net investment income	$	83,691	$	79,804	$	3,887

Net investment income was $83.7 million in the first quarter of 2022, compared to $79.8 million in the first quarter of 2021, an increase of $3.9 million. This increase was primarily driven by higher returns generated from increased invested assets in our catastrophe bond and equity portfolios, offset by higher investment expenses in the current quarter.

Net Realized and Unrealized Gains (Losses) on Investments

Three months ended March 31 (in thousands)		2022		2021		Change
Gross realized gains	$	9,560	$	49,454	$	(39,894)
Gross realized losses		(130,712)		(29,056)		(101,656)
Net realized gains (losses) on fixed maturity investments trading		(121,152)		20,398		(141,550)
Net unrealized gains (losses) on fixed maturity investments trading		(464,177)		(297,018)		(167,159)
Net realized and unrealized gains (losses) on investments-related derivatives [(1)]		(40,288)		14,861		(55,149)
Net realized gains (losses) on equity investments trading		(20)		109,887		(109,907)
Net unrealized gains (losses) on equity investments trading		(48,669)		(177,809)		129,140
Net realized and unrealized gains (losses) on other investments - catastrophe bonds		(8,261)		(19,083)		10,822
Net realized and unrealized gains (losses) on other investments - other		9,550		3,201		6,349
Net realized and unrealized gains (losses) on investments	$	(673,017)	$	(345,563)	$	(327,454)

(1) Net realized and unrealized gains (losses) on investment-related derivatives includes fixed maturity investments related derivatives (interest rate futures, interest rate swaps, credit default swaps and total return swaps), and equity investments related derivatives (equity futures). See “Note 13. Derivative Instruments” for additional information.

Our investment portfolio strategy seeks to preserve capital and provide us with a high level of liquidity. A large majority of our investments are invested in the fixed income markets and, therefore, our realized and unrealized holding gains and losses on investments are highly correlated to fluctuations in interest rates. Therefore, as interest rates decline, we will tend to have realized and unrealized gains from our investment portfolio, and as interest rates rise, we will tend to have realized and unrealized losses from our investment portfolio.

Net realized and unrealized losses on investments were $673.0 million in the first quarter of 2022, compared to net realized and unrealized losses of $345.6 million in the first quarter of 2021. Impacting our net realized and unrealized losses on investments in the first quarter of 2022 were:

- net realized and unrealized losses on our fixed maturity investments trading of $585.3 million compared to $276.6 million in the first quarter of 2021, an increase in net realized and unrealized losses of $308.7 million. The higher net realized and unrealized losses in the first quarter of 2022 were driven by a more significant increase in interest rates in the first quarter of 2022 as compared to the first quarter of 2021.
- net realized and unrealized losses on equity investments trading of $48.7 million compared to $67.9 million in the first quarter of 2021, a decrease in net realized and unrealized losses of $19.2 million. The net realized and unrealized losses in the first quarter of 2022 were principally driven by broad equity market declines, whereas in the first quarter of 2021, the result was driven by net losses from our investment in Trupanion, Inc.
- net realized and unrealized losses on investments-related derivatives of $40.3 million compared to gains of $14.9 million in the first quarter of 2021, a decrease of $55.1 million, principally driven by the increase in interest rates, which negatively impacted our long interest rate futures positions.

Net Foreign Exchange Gains (Losses)

Three months ended March 31 (in thousands)	2022	2021	Change
Net foreign exchange gains (losses)	$ (15,486)	$ (22,788)	$ 7,302

In the first quarter of 2022, net foreign exchange losses were $15.5 million compared to $22.8 million in the first quarter of 2021. The net foreign exchange losses in both periods were primarily driven by losses attributable to third-party investors in Medici which are allocated through noncontrolling interest and miscellaneous foreign exchange losses generated by our underwriting activities.

Our functional currency is the U.S. dollar. We routinely write a portion of our business in currencies other than U.S. dollars and invest a portion of our cash and investment portfolio in those currencies. In addition, and in connection with the acquisition of TMR, we acquired certain entities with non-U.S. dollar functional currencies. As a result, we may experience foreign exchange gains and losses in our consolidated financial statements. We are primarily impacted by the foreign currency risk exposures associated with our underwriting operations, and our investment portfolio, and may, from time to time, enter into foreign currency forward and option contracts to minimize the effect of fluctuating foreign currencies on the value of non-U.S. dollar denominated assets and liabilities.

Refer to “Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk” in our Form 10-K for the year ended December 31, 2021 for additional information related to our exposure to foreign currency risk and “Note 13. Derivative Instruments” in our “Notes to the Consolidated Financial Statements” for additional information related to foreign currency forward and option contracts we have entered into.

Equity in Earnings (Losses) of Other Ventures

Three months ended March 31 (in thousands)	2022	2021	Change
Tower Hill Companies	$ (8,703)	$ (9,812)	$ 1,109
Top Layer Re	1,085	2,145	(1,060)
Other	1,228	2,109	(881)
Total equity in earnings (losses) of other ventures	$ (6,390)	$ (5,558)	$ (832)

Equity in earnings (losses) of other ventures represents our pro-rata share of the net income (loss) from our investments in the Tower Hill Companies, Top Layer Re, and our equity investments in a select group of insurance and insurance-related companies, which are included in Other. Except for Top Layer Re, which is recorded on a current quarter basis, equity in earnings (losses) of other ventures is recorded one quarter in arrears. The carrying value of these investments on our consolidated balance sheets, individually or in the aggregate, may differ from the realized value we may ultimately attain, perhaps significantly so.

Losses from our investments in other ventures were $6.4 million in the first quarter of 2022, compared to $5.6 million in the first quarter of 2021, a decrease of $0.8 million.

Other Income (Loss)

Three months ended March 31 (in thousands)	2022	2021	Change
Assumed and ceded reinsurance contracts accounted for at fair value	$ 1,154	$ 2,136	$ (982)
Other items	39	35	4
Total other income (loss)	$ 1,193	$ 2,171	$ (978)

In the first quarter of 2022, we generated other income of $1.2 million, compared to $2.2 million in the first quarter of 2021, a decrease of $1.0 million, driven by lower income from assumed and ceded reinsurance contracts accounted for at fair value in the first quarter of 2022 compared to the first quarter of 2021.

Corporate Expenses

Three months ended March 31 (in thousands)	2022	2021	Change
Corporate expenses	$ 12,502	$ 10,405	$ 2,097

Corporate expenses include certain executive, director, legal and consulting expenses, costs for research and development, impairment charges related to goodwill and other intangible assets, severance costs, and other miscellaneous costs, including those associated with operating as a publicly traded company.

Corporate expenses increased to $12.5 million in the first quarter of 2022, compared to $10.4 million in the first quarter of 2021. The increase of $2.1 million was primarily due to management departures in 2022.

Income Tax (Expense) Benefit

Three months ended March 31 (in thousands)	2022	2021	Change
Income tax (expense) benefit	$ 36,707	$ 19,516	$ 17,191

We recognized an income tax benefit of $36.7 million in the first quarter of 2022, compared to $19.5 million in the first quarter of 2021. The increase in our income tax benefit is primarily driven by unrealized investment losses in our U.S. based operations.

Net Income (Loss) Attributable to Redeemable Noncontrolling Interests

Three months ended March 31 (in thousands)	2022	2021	Change
Redeemable noncontrolling interest - DaVinciRe	$ (25,323)	$ (39,934)	$ 14,611
Redeemable noncontrolling interest - Medici	(5,287)	(13,443)	8,156
Redeemable noncontrolling interest - Vermeer	18,698	6,527	12,171
Net income (loss) attributable to redeemable noncontrolling interests	$ (11,912)	$ (46,850)	$ 34,938

Our net loss attributable to redeemable noncontrolling interests was $11.9 million in the first quarter of 2022, compared to $46.9 million in the first quarter of 2021, a change of $34.9 million. This change was primarily due to the following:

- DaVinciRe, which had a net loss in the first quarter of 2022, primarily due to realized and unrealized losses on investments, driven by the increase in interest rates discussed previously, as compared to a larger net loss in the first quarter of 2021, which was driven by losses from Winter Storm Uri; and

- RenaissanceRe Medici Fund Ltd. ("Medici"), which, while generating positive returns for Medici's investors, had a net loss attributable to redeemable noncontrolling interests in the first quarter of 2022 due to foreign exchange losses on hedges related to foreign currency share classes held by third-party investors. After taking into account the original currency carrying value of Medici's foreign currency share classes, foreign currency hedges had no net impact to Medici's investors. This was partially offset by

- Vermeer, which had improved net income in the first quarter of 2022 as compared to the first quarter of 2021, which was impacted by losses resulting from Winter Storm Uri.

FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES

Financial Condition

As a Bermuda-domiciled holding company, RenaissanceRe has limited operations of its own. Its assets consist primarily of investments in subsidiaries and cash and securities in amounts which fluctuate over time. We therefore rely on dividends and distributions (and other statutorily permissible payments) from our subsidiaries, investment income and fee income to meet our liquidity requirements, which primarily include making principal and interest payments on our debt and dividend payments to our preference and common shareholders.

The payment of dividends by our subsidiaries is, under certain circumstances, limited by the applicable laws and regulations in the various jurisdictions in which our subsidiaries operate. In addition, insurance laws require our insurance subsidiaries to maintain certain measures of solvency and liquidity. We believe that each of our insurance subsidiaries and branches exceeded the minimum solvency, capital and surplus requirements in their applicable jurisdictions at March 31, 2022. Certain of our subsidiaries and branches are required to file FCRs, with their regulators, which provide details on solvency and financial performance. Where required, these FCRs will be posted on our website. The regulations governing our and our principal operating subsidiaries' ability to pay dividends and to maintain certain measures of solvency and liquidity, and requirements to file FCRs are discussed in detail in "Part I, Item 1. Business, Regulation" and "Note 18. Statutory Requirements" in our "Notes to the Consolidated Financial Statements" in our Form 10-K for the year ended December 31, 2021.

Liquidity and Cash Flows

Holding Company Liquidity

RenaissanceRe's principal uses of liquidity are: (1) common share related transactions including dividend payments to our common shareholders and common share repurchases, (2) preference share related transactions including dividend payments to our preference shareholders and preference share redemptions, (3) interest and principal payments on debt, (4) capital investments in our subsidiaries, (5) acquisition of new or existing companies or businesses and (6) certain corporate and operating expenses.

We attempt to structure our organization in a way that facilitates efficient capital movements between RenaissanceRe and our operating subsidiaries and to ensure that adequate liquidity is available when required, giving consideration to applicable laws and regulations, and the domiciliary location of sources of liquidity and related obligations. For example, our internal investment structures and cash pooling arrangements among the Company and certain of our subsidiaries help to efficiently facilitate capital and liquidity movements.

In the aggregate, our principal operating subsidiaries have historically produced sufficient cash flows to meet their expected claims payments and operational expenses and to provide dividend payments to us. In addition, our subsidiaries maintain a concentration of investments in high quality liquid securities, which management believes will provide additional liquidity for extraordinary claims payments should the need arise. However, in some circumstances, RenaissanceRe may determine it is necessary or advisable to contribute capital to our subsidiaries, or may be contractually required to contribute capital to our joint ventures or managed funds. For example, in 2022, RenaissanceRe contributed capital to RenaissanceRe Specialty U.S. to support growth in premiums. In addition, from time to time we invest in new managed joint ventures or managed funds, increase our investments in certain of our managed joint ventures or managed funds and contribute cash to investment subsidiaries. For instance, effective April 1, 2022, RenaissanceRe launched Fontana, an innovative joint venture dedicated to writing Casualty and Specialty risks. In certain instances, we are required to make capital contributions to our subsidiaries, for example, Renaissance Reinsurance is obligated to make a mandatory capital contribution of up to $50.0 million in the event that a loss reduces Top Layer Re's capital below a specified level.

Sources of Liquidity

Historically, cash receipts from operations, consisting primarily of premiums, investment income and fee income, have provided sufficient funds to pay the losses and operating expenses incurred by our subsidiaries and to fund dividends and distributions to RenaissanceRe. Other potential sources of liquidity include borrowings under our credit facilities and issuances of securities.

The premiums received by our operating subsidiaries are generally received months or even years before losses are paid under the policies related to such premiums. Premiums and acquisition expenses generally are received within the first two years of inception of a contract, while operating expenses are generally paid within a year of being incurred. It generally takes much longer for net claims and claims expenses incurred to be reported and ultimately settled, requiring the establishment of reserves for claims and claim expenses and losses recoverable. Therefore, the amount of net claims paid in any one year is not necessarily related to the amount of net claims and claims expenses incurred in that year, as reported in the consolidated statement of operations.

While we expect that our liquidity needs will continue to be met by our cash receipts from operations, relatively low investment yields, and the nature of our business where a large portion of the coverages we provide can produce losses of high severity and low frequency, future cash flows from operating activities cannot be accurately predicted and may fluctuate significantly between individual quarters and years. In addition, due to the magnitude and complexity of certain large loss events, meaningful uncertainty remains regarding losses from these events and our actual ultimate net losses from these events may vary materially from preliminary estimates, which would impact our cash flows from operations.

Our "shelf" registration statement on Form S-3 under the Securities Act allows for the public offering of various types of securities, including common shares, preference shares and debt securities, which provides a source of liquidity. Because we are a "well-known seasoned issuer" as defined by the rules promulgated under the Securities Act, we are also eligible to file additional automatically effective registration statements on Form S-3 in the future for the potential offering and sale of additional debt and equity securities.

Credit Facilities, Trusts and Other Collateral Arrangements

We also maintain various other arrangements that allow us to access liquidity and satisfy collateral requirements, including revolving credit facilities, letter of credit facilities, and regulatory trusts, as well as other types of trust and collateral arrangements. Regulatory and other requirements to post collateral to support our reinsurance obligations could impact our liquidity. For example, many jurisdictions in the U.S. do not permit insurance companies to take credit for reinsurance obtained from unlicensed or non-admitted insurers on their statutory financial statements unless security is posted, so our contracts generally require us to post a letter of credit or provide other security (*e.g.*, through a multi-beneficiary reinsurance trust). In addition, if we were to fail to comply with certain covenants in our debt agreements, we may have to pledge additional collateral.

Letter of Credit and Revolving Credit Facilities

We and certain of our subsidiaries, joint ventures, and managed funds maintain secured and unsecured revolving credit facilities and letter of credit facilities that provide liquidity and allow us to satisfy certain collateral requirements. The outstanding amounts drawn under each of our significant credit facilities are set forth below

At March 31, 2022 (in thousands)	Issued or Drawn
Revolving Credit Facility [1]	$ —
Medici Revolving Credit Facility [2]	30,000
Bilateral Letter of Credit Facilities	
Secured	403,522
Unsecured	456,307
Funds at Lloyd's Letter of Credit Facility	275,000
	$ 1,164,829

(1) At March 31, 2022, no amounts were issued or drawn under this facility.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici's issued voting shares, the financial statements of Medici are included in RenaissanceRe's consolidated financial statements. The drawn amount of the Medici Revolving Credit Facility is included on the Company's consolidated balance sheets under debt. Subsequent to March 31, 2022, Medici repaid in full the aggregate principal amount drawn under the Medici Revolving Credit Facility.

There have been no material changes to our credit facilities as disclosed in our Form 10-K for the year ended December 31, 2021.

Refer to "Note 7. Debt and Credit Facilities" in our "Notes to the Consolidated Financial Statements" for additional information related to our significant debt and credit facilities.

Funds at Lloyd's

As a member of Lloyd's, the underwriting capacity, or stamp capacity, of Syndicate 1458 must be supported by providing a deposit, the FAL, in the form of cash, securities or letters of credit. At March 31, 2022, the FAL required to support the underwriting activities at Lloyd's through Syndicate 1458 was £751.7 million (December 31, 2021 - £756.0 million). Actual FAL posted for Syndicate 1458 at March 31, 2022 by RenaissanceRe CCL was $953.8 million (December 31, 2021 - $983.4 million), supported by a $275.0 million letter of credit and a $678.8 million deposit of cash and fixed maturity securities (December 31, 2021 - $275.0 million and $708.4 million, respectively). Refer to "Note 7. Debt and Credit Facilities" in our "Notes to the Consolidated Financial Statements" for additional information related to this letter of credit facility.

Multi-Beneficiary Reinsurance Trusts, Multi-Beneficiary Reduced Collateral Reinsurance Trusts

Certain of our insurance subsidiaries use multi-beneficiary reinsurance trusts and multi-beneficiary reduced collateral reinsurance trusts to collateralize reinsurance liabilities. As described below, as of March 31, 2022, all of these trusts were funded in accordance with the relevant regulatory thresholds, However, Renaissance Reinsurance maintains a significant surplus in the amount of approximately $604.6 million, which is the subject of a withdrawal request that is under review by the NYDFS. Refer to "Note 18. Statutory Requirements" in our "Notes to the Consolidated Financial Statements" in our Form 10-K for the year ended December 31, 2021 for additional information on our multi-beneficiary reinsurance trusts and multi-beneficiary reduced collateral reinsurance trusts.

Assets held under trust at March 31, 2022 with respect to our multi-beneficiary reinsurance trusts totaled $1.1 billion and $261.6 million for Renaissance Reinsurance and DaVinci, respectively (December 31, 2021 - $1.2 billion and $272.0 million, respectively), compared to the minimum amount required under U.S. state regulations of $537.6 million and $161.9 million, respectively, at March 31, 2022 (December 31, 2021 - $531.8 million and $182.3 million, respectively).

Assets held under trust at March 31, 2022 with respect to our multi-beneficiary reduced collateral reinsurance trusts totaled $141.4 million, $165.1 million, and $88.4 million for Renaissance Reinsurance, DaVinci and RREAG respectively (December 31, 2021 - $136.3 million, $168.1 million and $86.6 million respectively), compared to the minimum amount required under U.S. state regulations of $131.9 million, $156.8 million and $78.8 million respectively (December 31, 2021 - $128.1 million, $164.5 million and $75.8 million respectively).

Contractual Obligations

In assessing our liquidity requirements and cash needs, we also consider contractual obligations to which we are a party. These contractual obligations are summarized in our Form 10-K for the year ended December 31, 2021. As of March 31, 2022, there were no material changes in our contractual obligations as disclosed in the table of contractual obligations and related footnotes included in our Form 10-K for the year ended December 31, 2021.

Cash Flows

Three months ended March 31 (in thousands)	2022	2021
Net cash provided by (used in) operating activities	$ 168,229	$ 206,538
Net cash provided by (used in) investing activities	(403,900)	(463,131)
Net cash provided by (used in) financing activities	(66,493)	(193,579)
Effect of exchange rate changes on foreign currency cash	6,201	20
Net increase (decrease) in cash and cash equivalents	(295,963)	(450,152)
Cash and cash equivalents, beginning of period	1,859,019	1,736,813
Cash and cash equivalents, end of period	$ 1,563,056	$ 1,286,661

2022

During the three months ended March 31, 2022, our cash and cash equivalents decreased by $296.0 million, to $1.6 billion at March 31, 2022, compared to $1.9 billion at December 31, 2021.

Cash flows provided by operating activities. Cash flows *provided by* operating activities during the three months ended March 31, 2022 were $168.2 million, compared to $206.5 million during the three months ended March 31, 2021. Cash flows *provided by* operating activities during the three months ended March 31, 2022 were primarily the result of certain adjustments to reconcile our net loss of $397.5 million to net cash *provided by* operating activities, including:

- an increase in unearned premiums of $1.0 billion due to the growth in gross premiums written across both our Property and Casualty and Specialty segments;
- net realized and unrealized losses on investments of $632.7 million primarily driven by unrealized mark-to-market losses resulting from the significant increase in interest rates;
- an increase in reinsurance balances payable of $458.7 million principally driven by the issuance of non-voting preference shares to investors in Upsilon RFO, which are accounted for as prospective reinsurance and included in reinsurance balances payable on our consolidated balance sheet. See “Note 9. Variable Interest Entities” in our “Notes to the Consolidated Financial Statements” for additional information related to Upsilon RFO’s non-voting preference shares; partially offset by
- an increase in premiums receivable of $1.1 billion due to the timing of receipts and increase in our gross premiums written;
- an increase of $331.3 million in our prepaid reinsurance premiums due to the timing of payments; and
- a decrease in other operating cash flows of $160.6 million primarily reflecting subscriptions received in advance of the issuance of Medici’s non-voting preference shares effective April 1, 2022, which were recorded in other liabilities at March 31, 2021, and an increase in the Company’s deferred tax asset. See “Note 8. Noncontrolling Interests” in our “Notes to the Consolidated Financial Statements” for additional information related to Medici’s non-voting preference shares.

Cash flows used in investing activities. During the three months ended March 31, 2022, our cash flows used in investing activities were $403.9 million, principally reflecting net purchases of fixed maturity investments trading of $446.8 million, equity investments trading of $374.3 million, and other investments of $210.8 million, partially offset by cash flow from net sales of short term investments of $626.6 million. The net purchases of fixed maturity investments trading was primarily funded by cash flows provided by operating activities, as described above, whereas the net purchase of other investments during the three months ended March 31, 2022, was primarily driven by an increased allocation to catastrophe bonds and fund investments.

Cash flows used in financing activities. Our cash flows used in financing activities in the three months ended March 31, 2022 were $66.5 million, and were principally the result of:

- the repurchase of 576.7 thousand of our common shares in open market transactions at an aggregate cost of $93.4 million and an average price of $162.03 per common share;
- dividends paid on our common and preference shares of $16.2 million and $8.9 million, respectively; and partially offset by
- net inflows of $66.7 million primarily related to net third-party redeemable noncontrolling interest share transactions in Medici and DaVinci.

2021

During the three months ended March 31, 2021, our cash and cash equivalents decreased by $450.2 million, to $1.3 billion at March 31, 2021, compared to $1.7 billion at December 31, 2020.

Cash flows provided by operating activities. Cash flows provided by operating activities during the three months ended March 31, 2021 were $206.5 million, compared to $475.5 million during the three months ended March 31, 2020. Cash flows provided by operating activities during the three months ended March 31, 2021 were primarily the result of certain adjustments to reconcile our net loss of $330.5 million to net cash provided by operating activities, including:

- an increase in unearned premiums of $1.1 billion due to the growth in gross premiums written across both our Property and Casualty and Specialty segments;
- an increase in reinsurance balances payable of $766.3 million principally driven by the issuance of non-voting preference shares to investors in Upsilon RFO, which are accounted for as prospective reinsurance and included in reinsurance balances payable on our consolidated balance sheet. See “Note 9. Variable Interest Entities” in our “Notes to the Consolidated Financial Statements” for additional information related to Upsilon RFO’s non-voting preference shares;
- an increase in reserve for claims and claim expenses of $572.2 million primarily the result of net claims and claim expenses associated with Winter Storm Uri;
- net realized and unrealized losses on investments of $360.4 million principally driven by net unrealized losses on fixed maturity investments and equity investments trading, partially offset by net realized gains in equity investments trading, primarily in the strategic investment portfolio; partially offset by
- an increase in premiums receivable of $1.0 billion due to the timing of receipts and increase in our gross premiums written;
- an increase of $406.1 million in our prepaid reinsurance premiums due to the timing of payments and increase in ceded premiums written; and
- a decrease in other operating cash flows of $423.4 million primarily reflecting subscriptions received in advance of the issuance of Upsilon RFO’s non-voting preference shares effective January 1, 2021, which were recorded in other liabilities at December 31, 2020. During the three months ended March 31, 2021, in connection with the issuance of the non-voting preference shares of Upsilon RFO, other liabilities were reduced by the subscriptions received in advance, and reinsurance balances payable were increased by an offsetting amount, with corresponding impacts to other operating cash flows and the change in reinsurance balances payable, as noted above, on our consolidated statements of cash flows for the three months ended March 31, 2021. See “Note 9. Variable Interest Entities” in our “Notes to the Consolidated Financial Statements” for additional information related to Upsilon RFO’s non-voting preference shares.

Cash flows used in investing activities. During the three months ended March 31, 2021, our cash flows used in investing activities were $463.1 million, principally reflecting net purchases of fixed maturity investments trading, short term investments and other investments of $339.5 million, $111.1 million and $127.7 million, respectively, partially offset by net sales of equity investments trading of $128.0 million. The net purchase of fixed maturity investments trading was primarily funded by cash flows provided by operating activities, as described above, whereas the net purchase of short term investments was primarily associated with capital received from investors in Upsilon RFO during the three months ended March 31, 2021. The net purchase of other investments during the three months ended March 31, 2021, was primarily driven by an increased allocation to catastrophe bonds.

Cash flows used in financing activities. Our cash flows used in financing activities in the three months ended March 31, 2021 were $193.6 million, and were principally the result of:

- the repurchase of 1.1 million of our common shares in open market transactions at an aggregate cost of $171.6 million and an average price of $159.47 per common share;
- dividends paid on our common and preference shares of $17.8 million and $7.3 million, respectively; partially offset by
- net inflows of $13.0 million primarily related to net third-party redeemable noncontrolling interest share transactions in Medici and DaVinci.

Capital Resources

We monitor our capital adequacy on a regular basis and seek to adjust our capital according to the needs of our business. In particular, we require capital sufficient to meet or exceed the capital adequacy ratios established by rating agencies for maintenance of appropriate financial strength ratings, the capital adequacy tests performed by regulatory authorities and the capital requirements under our credit facilities. From time to time, rating agencies may make changes in their capital models and rating methodologies, which could increase the amount of capital required to support our ratings. We may seek to raise additional capital or return capital to our shareholders through common share repurchases and cash dividends (or a combination of such methods). In the normal course of our operations, we may from time to time evaluate additional share or debt issuances given prevailing market conditions and capital management strategies, including for our operating subsidiaries, joint ventures and managed funds. In addition, as noted above, we enter into agreements with financial institutions to obtain letter of credit facilities for the benefit of our operating subsidiaries and certain of our joint ventures and managed funds in their reinsurance and insurance business.

Our total shareholders' equity attributable to RenaissanceRe and total debt was as follows:

(in thousands)	At March 31, 2022	At December 31, 2021	Change
Common shareholders' equity	$ 5,366,960	$ 5,874,281	$ (507,321)
Preference shares	750,000	750,000	—
Total shareholders' equity attributable to RenaissanceRe	6,116,960	6,624,281	(507,321)
3.600% Senior Notes due 2029	393,534	393,305	229
3.450% Senior Notes due 2027	297,404	297,281	123
3.700% Senior Notes due 2025	298,889	298,798	91
4.750% Senior Notes due 2025 (DaVinciRe) (1)	149,045	148,969	76
Total senior notes	$ 1,138,872	$ 1,138,353	$ 519
Medici Revolving Credit Facility (2)	$ 30,000	$ 30,000	$ —
Total debt	$ 1,168,872	$ 1,168,353	$ 519

(1) RenaissanceRe owns a noncontrolling economic interest in its joint venture DaVinciRe. Because RenaissanceRe controls a majority of DaVinciRe's issued voting shares, the consolidated financial statements of DaVinciRe are included in the consolidated financial statements of RenaissanceRe. However, RenaissanceRe does not guarantee or provide credit support for DaVinciRe and RenaissanceRe's financial exposure to DaVinciRe is limited to its investment in DaVinciRe's shares and counterparty credit risk arising from reinsurance transactions.

(2) RenaissanceRe owns a noncontrolling economic interest in Medici. Because RenaissanceRe controls all of Medici's issued voting shares, the financial statements of Medici are included in RenaissanceRe's consolidated financial statements. Subsequent to March 31, 2022, Medici repaid in full the aggregate principal amount drawn under the Medici Revolving Credit Facility.

Our shareholders' equity attributable to RenaissanceRe decreased $507.3 million during the three months ended March 31, 2022 principally as a result of:

- the repurchase of 576.7 thousand common shares in open market transactions at an aggregate cost of $93.4 million and an average price of $162.03 per common share;
- our comprehensive loss attributable to RenaissanceRe of $387.5 million; and
- $16.2 million and $8.8 million of dividends on our common and preference shares, respectively; partially offset by
- $11.9 million of net loss attributable to redeemable noncontrolling interests.

For additional information related to the terms of our debt and significant credit facilities, see “Note 7. Debt and Credit Facilities” in our “Notes to the Consolidated Financial Statements” in this Form 10-Q and “Note 9. Debt and Credit Facilities” in our “Notes to the Consolidated Financial Statements” in our Form 10-K for the year ended December 31, 2021. See “Note 10. Shareholders’ Equity” in our “Notes to the Consolidated Financial Statements” in this Form 10-Q and “Note 12. Shareholders’ Equity” in our “Notes to the Consolidated Financial Statements” in our Form 10-K for the year ended December 31, 2021 for additional information related to our common and preference shares.

Reserve for Claims and Claim Expenses

We believe the most significant accounting judgment made by management is our estimate of claims and claim expense reserves. Claims and claim expense reserves represent estimates, including actuarial and statistical projections at a given point in time, of the ultimate settlement and administration costs for unpaid claims and claim expenses arising from the insurance and reinsurance contracts we sell. Our actual net claims and claim expenses paid will differ, perhaps materially, from the estimates reflected in our financial statements, which may adversely impact our financial condition, liquidity and capital resources.

Refer to “Note 8. Reserve for Claims and Claim Expenses” in our “Notes to the Consolidated Financial Statements” in our Form 10-K for the year ended December 31, 2021 and “Note 6. Reserve for Claims and Claim Expenses” included herein for more information on the risks we insure and reinsure, the reserving techniques, assumptions and processes we follow to estimate our claims and claim expense reserves, prior year development of the reserve for claims and claim expenses, analysis of our incurred and paid claims development and claims duration information for each of our Property and Casualty and Specialty segments. In addition, refer to “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, Summary of Critical Accounting Estimates, Claims and Claim Expense Reserves” in our Form 10-K for the year ended December 31, 2021 for more information on the reserving techniques, assumptions and processes we follow to estimate our claims and claim expense reserves, our current estimates versus our initial estimates of our claims reserves, and sensitivity analysis for each of our Property and Casualty and Specialty segments.

Investments

The table below shows our invested assets:

(in thousands, except percentages)	March 31, 2022		December 31, 2021		Change
U.S. treasuries	$ 5,792,746	27.8 %	$ 6,247,779	29.1 %	$ (455,033)
Agencies	363,256	1.8 %	361,684	1.7 %	1,572
Non-U.S. government	485,193	2.3 %	549,613	2.6 %	(64,420)
Non-U.S. government-backed corporate	431,008	2.1 %	474,848	2.2 %	(43,840)
Corporate	3,420,946	16.4 %	3,214,438	15.0 %	206,508
Agency mortgage-backed	714,176	3.4 %	721,955	3.4 %	(7,779)
Non-agency mortgage-backed	212,145	1.0 %	233,346	1.1 %	(21,201)
Commercial mortgage-backed	567,186	2.7 %	634,925	3.0 %	(67,739)
Asset-backed	1,042,429	5.0 %	1,068,543	5.0 %	(26,114)
Total fixed maturity investments, at fair value	13,029,085	62.5 %	13,507,131	63.1 %	(478,046)
Short term investments, at fair value	4,685,280	22.5 %	5,298,385	24.7 %	(613,105)
Equity investments trading, at fair value	873,268	4.2 %	546,016	2.5 %	327,252
Catastrophe bonds	1,233,023	5.9 %	1,104,034	5.1 %	128,989
Direct private equity investments	80,213	0.4 %	88,373	0.4 %	(8,160)
Fund investments	784,243	3.8 %	725,802	3.4 %	58,441
Term loans	85,000	0.4 %	74,850	0.3 %	10,150
Total other investments, at fair value	2,182,479	10.5 %	1,993,059	9.2 %	189,420
Total managed investment portfolio	20,770,112	99.7 %	21,344,591	99.5 %	(574,479)
Investments in other ventures, under equity method	81,106	0.3 %	98,068	0.5 %	(16,962)
Total investments	$ 20,851,218	100.0 %	$ 21,442,659	100.0 %	$ (591,441)

We structure our investment portfolio to emphasize the preservation of capital and the availability of liquidity to meet our claims obligations, to be well diversified across market sectors, and to generate relatively attractive returns on a risk-adjusted basis over time. Notwithstanding the foregoing, our investments are subject to market-wide risks and fluctuations, as well as to risks inherent in particular securities. For additional information regarding our investments and the fair value measurement of our investments refer to “Note 3. Investments” and “Note 4. Fair Value Measurements” in our “Notes to the Consolidated Financial Statements.”

As the reinsurance coverages we sell include substantial protection for damages resulting from natural and man-made catastrophes, as well as for potentially large casualty and specialty exposures, we expect, from time to time, to become liable for substantial claim payments on short notice. Accordingly, our investment portfolio as a whole is structured to seek to preserve capital and provide a high level of liquidity, which means that the large majority of our investments are highly rated fixed income securities, including U.S. treasuries, agencies, highly rated sovereign and supranational securities, high-grade corporate securities and mortgage-backed and asset-backed securities. We also have an allocation to publicly traded equities reflected on our consolidated balance sheet as equity investments trading and an allocation to other investments (including catastrophe bonds, direct private equity investments, fund investments and term loans).

Other Investments

The table below shows our portfolio of other investments:

(in thousands)		March 31, 2022		December 31, 2021		Change
Catastrophe bonds	$	1,233,023	$	1,104,034	$	128,989
Direct private equity investments		80,213		88,373		(8,160)
Fund investments		784,243		725,802		58,441
Term loans		85,000		74,850		10,150
Total other investments	$	2,182,479	$	1,993,059	$	189,420

We account for our other investments at fair value in accordance with FASB ASC Topic *Financial Instruments*. The fair value of our fund investments, which include private equity funds, private credit funds and hedge funds, is recorded on our consolidated balance sheet in other investments, and is generally established on the basis of the net asset value per share (or its equivalent), determined by the managers of these investments in accordance with the applicable governing documents. Many of our fund investments are subject to restrictions on redemptions and sales which limit our ability to liquidate these investments in the short term.

Some of our fund managers and fund administrators are unable to provide final fund valuations as of our current reporting date. We typically experience a reporting lag to receive a final net asset value report of one month for our hedge funds and certain private credit funds and three months for private equity funds and private credit funds, although we have occasionally experienced delays of up to six months at year end. In circumstances where there is a reporting lag, we estimate the fair value of these funds by starting with the prior month or quarter-end fund valuation, adjusting for actual capital calls, redemptions or distributions, and the impact of changes in foreign currency exchange rates, and then estimating the return for the current period using all information available to us. This principally includes using preliminary estimates reported to us by our fund managers, estimating returns based on the performance of broad market indices, or other valuation methods. Actual final fund valuations may differ, perhaps materially, from our estimates and these differences are recorded as a change in estimate in our consolidated statement of operations in the period in which they are reported to us. Included in net realized and unrealized gains (losses) on investments for the three months ended March 31, 2022 is income of $19.2 million (2021 - $1.8 million) representing the change in estimate during the period related to the difference between our estimated net realized and unrealized gains (losses) due to the lag in reporting discussed above and the actual amount as reported in the final net asset values provided by our fund managers.

Our estimate of the fair value of catastrophe bonds is based on quoted market prices, or when such prices are not available, by reference to broker or underwriter bid indications. Refer to “Note 4. Fair Value Measurements” in our “Notes to the Consolidated Financial Statements” for additional information regarding the fair value of measurement of our investments.

We have committed capital to direct private equity investments, fund investments, term loans, and investments in other ventures of $2.8 billion, of which $1.4 billion has been contributed at March 31, 2022. Our remaining commitments to these investments at March 31, 2022 totaled $1.4 billion. In the future, we may enter into additional commitments in respect of these investments or individual portfolio company investment opportunities.

Ratings

Financial strength ratings are important to the competitive position of reinsurance and insurance companies. We have received high long-term issuer credit and financial strength ratings and scores from A.M. Best, S&P, Moody’s and Fitch as applicable. These ratings represent independent opinions of an insurer’s financial strength, operating performance and ability to meet policyholder obligations, and are not an evaluation directed toward the protection of investors or a recommendation to buy, sell or hold any of our securities. Rating organizations continually review the financial positions of our principal operating subsidiaries and joint ventures and ratings may be revised or revoked by the agencies which issue them. Additionally, rating organizations may change their rating methodology, which could have a material impact on our financial strength ratings.

In addition, S&P and A.M. Best assess companies’ ERM practices, which is an opinion on the many critical dimensions of risk that determine overall creditworthiness. RenaissanceRe has been assigned an ERM score of “Very Strong” from each of these agencies, which is the highest ERM score assigned.

The ratings of our principal operating subsidiaries and joint ventures and the ERM score of RenaissanceRe as of May 2, 2022 are presented below.

	A.M. Best (1)	S&P (2)	Moody’s (3)	Fitch (4)
Renaissance Reinsurance Ltd.	A+	A+	A1	A+
DaVinci Reinsurance Ltd.	A	A+	A3	—
Renaissance Reinsurance of Europe Unlimited Company	A+	A+	—	—
Renaissance Reinsurance U.S. Inc.	A+	A+	—	—
RenaissanceRe Europe AG	A+	A+	—	—
RenaissanceRe Specialty U.S. Ltd.	A+	A+	—	—
Top Layer Reinsurance Ltd.	A+	AA	—	—
Vermeer Reinsurance Ltd.	A	—	—	—
RenaissanceRe Syndicate 1458	—	—	—	—
Lloyd's Overall Market Rating	A	A+	—	AA-
RenaissanceRe ERM Score	Very Strong	Very Strong	—	—

(1) The A.M. Best ratings for our principal operating subsidiaries and joint ventures represent the insurer’s financial strength rating. The Lloyd’s Overall Market Rating represents RenaissanceRe Syndicate 1458’s financial strength rating. RenaissanceRe has been assigned a “very Strong” ERM score by A.M. Best.

(2) The S&P ratings for our principal operating subsidiaries and joint ventures represent the insurer’s financial strength rating and the issuer’s long-term issuer credit rating. The Lloyd’s Overall Market Rating represents RenaissanceRe Syndicate 1458’s financial strength rating. RenaissanceRe has been assigned a “Very Strong” ERM score by S&P.

(3) The Moody’s ratings represent the insurer’s financial strength rating.

(4) The Fitch rating for Renaissance Reinsurance represents the insurer’s financial strength rating. The Lloyd’s Overall Market Rating represents Syndicate 1458’s financial strength rating.

As of May 2, 2022, there were no material changes to our ratings as disclosed in our Form 10-K for the year ended December 31, 2021.

SUPPLEMENTAL GUARANTOR FINANCIAL INFORMATION

RenaissanceRe Finance, a 100% owned subsidiary of RenaissanceRe, is the issuer of certain 3.700% Senior Notes due 2025 and 3.450% Senior Notes due 2027, each of which are fully and unconditionally guaranteed by RenaissanceRe. The guarantees are senior unsecured obligations of RenaissanceRe and rank equally in right of payment with all other existing and future unsecured and unsubordinated indebtedness of RenaissanceRe which may be outstanding from time to time. Each series of notes contain various covenants, including limitations on mergers and consolidations, and restrictions as to the disposition of, and the placing of liens on, stock of designated subsidiaries. For additional information related to the terms of our outstanding debt securities, see “Note 9. Debt and Credit Facilities” in the “Notes to the Consolidated Financial Statements” in our Form 10-K for the year ended December 31, 2021 and “Note 7. Debt and Credit Facilities” included herein.

The following tables present supplemental summarized financial information for RenaissanceRe and RenaissanceRe Finance, collectively the “Obligor Group.” Intercompany transactions among the members of the Obligor Group have been eliminated. The financial information of non-obligor subsidiaries has been excluded from the summarized financial information. Significant intercompany transactions and receivable/payable balances between the Obligor Group and non-obligor subsidiaries are presented separately in the summarized financial information:

Summarized Balance Sheets

(in thousands)	March 31, 2022	December 31, 2021
Assets		
Receivables due from non-obligor subsidiaries	$ 11,211	$ 9,550
Other current assets	227,767	106,482
Total current assets	$ 238,978	$ 116,032
Goodwill and other intangibles	$ 107,375	$ 108,261
Loan receivable from non-obligor subsidiaries	854,637	840,298
Other noncurrent assets	1,443,553	1,866,059
Total noncurrent assets	$ 2,405,565	$ 2,814,618
Liabilities		
Payables due to non-obligor subsidiaries	$ 13,019	$ 160,703
Other current liabilities	38,803	28,680
Total current liabilities	$ 51,822	$ 189,383
Loan payable to non-obligor subsidiaries	$ 203,318	$ 201,380
Other noncurrent liabilities	1,108,465	1,088,288
Total noncurrent liabilities	$ 1,311,783	$ 1,289,668

Summarized Statement of Operations

(in thousands)	Three months ended March 31, 2022
Revenues	
Intercompany revenue with non-obligor subsidiaries	$ 4,936
Other revenue	11,338
Total revenues	16,274
Expenses	
Intercompany expense with non-obligor subsidiaries	49,514
Other expense	32,396
Total expenses	81,910
Income tax benefit (expense)	(562)
Net income (loss)	(66,198)
Dividends on RenaissanceRe preference shares	(8,844)
Net income (loss) attributable to Obligor Group	$ (75,042)

CURRENT OUTLOOK

Reinsurance Market Trends and Developments

Over the last 10 years, we have made key strategic decisions to build the capabilities and scale that we believe will allow us to generate superior returns in an evolving marketplace. In furtherance of this, in April

2022, we launched Fontana, an innovative casualty and specialty joint venture. We have diversified our sources of capital through various owned and managed balance sheets as well as equity, debt and insurance-linked securities markets. We are unique among our peers in that we have both owned and managed, and rated and fronted, vehicles across the risks that we write. This has afforded us significant flexibility to react when the world changes.

We believe that market conditions have created significant opportunities to source attractive risk in the lines of business that we write, and that such opportunities will result in superior returns for our shareholders. The property catastrophe market in particular has contracted as many participants are unwilling to accept heightened levels of volatility, which continue to grow as a result of the impacts of climate change. We believe that our understanding of volatility places us in a preferred position to accept risk, and we continue to see strong opportunities for growth across our portfolio.

We believe that we are uniquely positioned to write a variety of risks, leveraging the enhancements we have made over the last several years to our risk and capital management technology and underwriting expertise to cover additional lines of business. In particular, we have invested heavily to understand the influence of climate change on the weather and its impact on the risks that we take. This quarter, with the help of our RenaissanceRe Risk Sciences team, we further updated our hurricane model to reflect our view of the increased risk from the impact of climate change as well as social and economic inflation.

We plan to continue to seek to take advantage of additional opportunities throughout the year and think that strategic decisions we have made in prior periods have laid the foundation for these initiatives. We believe that our clients value our ability to be a long-term partner who brings access to multiple forms of capital and innovative, large-scale solutions.

General Economic Conditions

We have continued to actively manage our capital in 2022. When our shares trade at attractive levels, we have additional options to manage excess capital, and we may utilize our strong capital position to continue to return excess capital to shareholders. The relative attractiveness of our shares as compared to other capital deployment opportunities increases the hurdle rate against deploying excess capital into our business and furthers our focus on writing business that we believe will create superior returns for shareholders. Whenever possible, our preference is to deploy any excess capital into profitable business opportunities before returning excess capital to shareholders.

We believe the stresses in the global economy will continue and that this may result in increased market volatility. This was apparent in the rapid increase in interest rates during the most recent quarter which drove significant mark-to-market losses in our investment portfolio. However, as interest rates rise from historic lows, we expect to see an increase in net investment income from our investment portfolio. The effects of interest rate trends on our reinsurance and insurance business could be magnified for longer-tail business lines that are more inflation-sensitive, particularly in our Casualty and Specialty segment, and in our other property class of business within our Property segment. Notwithstanding the many uncertainties and challenges that lie ahead, we believe that our track record of responding to industry events, differentiated risk management and client service capabilities, and access to diverse sources of both capital and risk position us favorably in the current environment.

Property. We took a disciplined approach at the January 1 and April 1 property catastrophe renewals, and reduced the size of our aggregate retrocessional property catastrophe vehicle, Upsilon RFO. We continue to carefully monitor ongoing, adverse trends in the Florida market with respect to claims practices, litigation risks, and exposure growth, and are prepared to continue to reduce our exposure to risks and accounts exposed to these trends.

Casualty and Specialty. We continue to see ongoing rate increases across multiple lines of business and geographies within our Casualty and Specialty segment, and we have expanded participation on multiple casualty and specialty lines. We intentionally, but carefully, began building this segment during a more challenging phase of the market, constructing a portfolio with embedded options for growth. Over the past three years, we have accelerated this growth into an improving market. We believe that our book of business is beginning to reflect the rate improvements that we have seen over the past several years. We think that our prior work building strong relationships with key customers allowed us to gain superior access to desirable business.

See the “Risk Factors” section in our Form 10-K for additional information on factors that could cause our actual results to differ materially from those in the forward-looking statements contained in this Form 10-Q and other documents we file with the SEC.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are principally exposed to four types of market risk: interest rate risk; foreign currency risk; credit risk; and equity price risk. Our investment guidelines permit, subject to approval, investments in derivative instruments such as futures, options, foreign currency forward contracts and swap agreements, which may be used to assume risks or for hedging purposes.

There were no material changes to these market risks, as disclosed in “Part II, Item 7A. Quantitative and Qualitative Disclosures about Market Risk” in our Form 10-K for the year ended December 31, 2021, during the three months ended March 31, 2022. See “Part II, Item 7A. Quantitative and Qualitative Disclosures about Market Risk,” in our Form 10-K for the year ended December 31, 2021 for a discussion of our exposure to these risks.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(b) and 15d-15(b) of the Exchange Act, as of the end of the period covered by this report. Based upon that evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, concluded that, at March 31, 2022, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in Company reports filed or submitted under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended March 31, 2022, which were identified in connection with our evaluation required pursuant to Rules 13a-15 or 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

There have been no material changes to the legal proceedings previously disclosed in our Form 10-K for the year ended December 31, 2021.

ITEM 1A. RISK FACTORS

There have been no material changes to the risk factors previously disclosed in our Form 10-K for the year ended December 31, 2021.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Our share repurchase program may be effected from time to time, depending on market conditions and other factors, through open market purchases and privately negotiated transactions. On February 4, 2022, our Board of Directors approved a renewal of our authorized share repurchase program to an aggregate amount of up to $500.0 million. Unless terminated earlier by our Board of Directors, the program will expire when we have repurchased the full value of the shares authorized. The table below details the repurchases that were made under the program during the first quarter of 2022, and also includes other shares purchased, which represents common shares surrendered by employees in respect of withholding tax obligations on the vesting of restricted stock.

	Total shares purchased		Other shares purchased		Shares purchased under publicly announced repurchase program		Maximum dollar amount still available under repurchase program
	Shares purchased	Average price per share	Shares purchased	Average price per share	Shares purchased	Average price per share	(in thousands)
Beginning dollar amount available to be repurchased							$ 306,636
January 1 - 31, 2022	378,850	$ 166.09	—	$ —	378,850	$ 166.09	243,714
February 1 - 4, 2022	125,068	$ 157.20	68	$ 157.96	125,000	$ 157.20	224,064
February 4 - renewal of authorized share repurchase program of $500.0 million							500,000
February 5 - 28, 2022	120,847	$ 152.01	48,143	$ 156.28	72,704	$ 149.18	489,154
March 1 - 31, 2022	22,429	$ 145.49	22,320	$ 145.49	109	$ 144.82	489,138
Total	647,194	$ 161.03	70,531	$ 152.87	576,663	$ 162.03	$ 489,138

During the three months ended March 31, 2022, pursuant to our publicly announced share repurchase program, we repurchased 576.7 thousand common shares at an aggregate cost of $93.4 million and an average price of $162.03 per common share. At March 31, 2022, $489.1 million remained available for repurchase under the share repurchase program. In the future, we may authorize additional purchase activities under the currently authorized share repurchase program, increase the amount authorized under the share repurchase program, or adopt additional trading plans. Our decision to repurchase common shares will depend on, among other matters, the market price of the common shares and our capital requirements.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

10.1*	Employment Agreement, dated as of April 27, 2017, by and between RenaissanceRe Services Ltd. and Sean G. Brosnan.
31.1	Certification of Kevin J. O'Donnell, Chief Executive Officer of RenaissanceRe Holdings Ltd., pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2	Certification of Robert Qutub, Chief Financial Officer of RenaissanceRe Holdings Ltd., pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32.1	Certification of Kevin J. O'Donnell, Chief Executive Officer of RenaissanceRe Holdings Ltd., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Robert Qutub, Chief Financial Officer of RenaissanceRe Holdings Ltd., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document and included in Exhibit 101).

* Represents management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

RENAISSANCERE HOLDINGS LTD.

Date: May 4, 2022 /s/ Robert Qutub

Robert Qutub
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Duly Authorized Officer)

Date: May 4, 2022 /s/ James C. Fraser

James C. Fraser
Senior Vice President and Chief Accounting Officer
(Principal Accounting Officer)

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (this "Agreement") is made and entered into as of this 27 day of April 2017, by and between RenaissanceRe Services Ltd. (the "Company") and Sean Brosnan ("Employee").

W I T N E S S E T H:

WHEREAS, the Company desires to enter into this Agreement to embody the terms of Employee's continued employment with the Company following the Commencement Date, and Employee desires to enter into this Agreement and to accept such continued employment, subject to the terms and provisions of this Agreement.

NOW, **THEREFORE**, in consideration of the promises and mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are mutually acknowledged, the Company and Employee hereby agree as follows:

Section 1. Definitions.

(a) "Accrued Obligations" shall mean (i) all accrued but unpaid Base Salary through the date of termination of Employee's employment; (ii) any unpaid or unreimbursed expenses incurred in accordance with Company policy, including amounts due under Section 6 hereof, to the extent incurred prior to termination of employment; (iii) any benefits provided under the Company's employee benefit plans upon a termination of employment, in accordance with the terms therein, including rights in respect of Awards granted under the Equity Plans; and (iv) rights to indemnification pursuant to Section 11 below.

(b) "Affiliate" shall mean, as to any Person, any other Person that controls, is controlled by, or is under common control with, such Person.

(c) "Agreement" shall have the meaning set forth in the preamble hereto.

(d) "Annual Bonus" shall have the meaning set forth in Section 4(b) below.

(e) "Awards" shall mean any stock options, restricted stock or other stock-based awards granted to Employee at any time under the Equity Plans, including any such awards granted prior to the Commencement Date.

(f) "Base Salary" shall mean the salary provided for in Section 4(a) or any increased salary granted to Employee pursuant to Section 4(a) below.

(g) "Board" shall mean the Board of Directors of the Parent.

(h) "Cause" shall mean (i) a material act or acts of willful misconduct by Employee in connection with Employee's employment duties; (ii) Employee's willful failure (except where due to physical or mental incapacity) or refusal to perform in any material respect Employee's duties or responsibilities under this Agreement; (iii) misappropriation by Employee of the assets or business opportunities of the Company or its Affiliates; (iv) embezzlement or fraud committed by Employee, at Employee's direction or with Employee's prior personal knowledge; (v) Employee's conviction of, or plea of guilty or nolo contendere to, the commission of a criminal act that would constitute a felony in the United States of America; or (vi) Employee's willful and material breach of any material provision of this Agreement.

(i) "Change in Control" shall have the meaning ascribed to such term in the Parent's 2016 Long-Term Incentive Plan, as may be amended and/or restated from time to time, or any successor plan thereto.

(j) "COBRA" shall mean Part 6 of Title I of the U.S. Employee Retirement Income Security Act of 1974, as amended, and Section 4980B of the Code, and the rules and regulations promulgated under either of them.

(k) "Code" shall mean the U.S. Internal Revenue Code of 1986, as amended.

(l) "Commencement Date" shall mean ________________.

(m) "Compensation Committee" shall mean the Compensation and Corporate Governance Committee of the Board.

(n) "Company" shall have the meaning set forth in the preamble hereto, except as otherwise expressly set forth herein.

(o) "Competitive Activities" shall mean any business activities in which the Company or any of its Affiliates are engaged (or have committed plans to engage) during the Term of Employment, or at the time of a termination of Employee's employment were engaged (or had committed plans to engage following such termination of employment).

(p) "Confidential Information" shall have the meaning set forth in Section 8(a) below.

(q) "Developments" shall have the meaning set forth in Section 8(f) below.

(r) "Direct Supervisor" shall mean the person to whom Employee directly reports and who supervises Employee's work on a regular basis.

(s) "Disability" shall mean any physical or mental disability or infirmity that has prevented the performance of Employee's duties for a period of ninety (90) consecutive calendar days or one hundred eighty (180) non-consecutive calendar days in any three hundred sixty-five (365) day period. Any question as to the existence, extent or potentiality of Employee's Disability upon which Employee and the Company cannot agree shall be determined by a qualified, independent physician selected by the Company and approved by Employee (which approval shall not be unreasonably withheld). The determination of any such physician shall be final and conclusive for all purposes of this Agreement.

(t) "Employee" shall have the meaning set forth in the preamble hereto.

(u) "Equity Plans" shall mean the equity incentive plans adopted and maintained by the Parent from time to time.

(v) "Exchange Act" shall mean the U.S. Securities Exchange Act of 1934, as amended.

(w) "Good Reason" shall mean, without Employee's consent:

(i) an adverse change in Employee's employment title;

(ii) a material diminution in Employee's employment duties, responsibilities or authority, or the assignment to Employee of duties that are materially inconsistent with Employee's position;

(iii) a reduction in Employee's Base Salary, target Annual Bonus or incentive compensation opportunities ;

(iv) a relocation of Employee's principal place of employment to a location more than thirty-five (35) miles farther from Employee's current principal residence than the location at which Employee was employed immediately preceding such change or any reassignment of Employee's duties not requested or initiated by Employee that would require Employee to relocate Employee's primary residence; or

(v) a breach by the Company of any material provision of this Agreement.

(x) "Interfering Activities" shall mean (i) encouraging, soliciting, or inducing, or in any manner attempting to encourage, solicit, or induce, any Person who is employed by, an agent of, or a service provider to, the Company or any Affiliate thereof to terminate (or, in the case of an agent or service provider, reduce) such Person's employment, agency or service, as the case may be, with the Company or such Affiliate; (ii) hiring any Person who was employed by, an agent of, or a service provider to, the Company or any Affiliate thereof within the six (6) month period prior to the date of such hiring; or (iii) encouraging, soliciting or inducing, or in any manner attempting to encourage, solicit or induce, any customer, supplier, licensee or other business relation of the Company or any Affiliate thereof to cease doing business with or reduce the amount of business conducted with (including by providing similar services or products to any such Person) the Company or such Affiliate, or in any way interfering with the relationship between any such customer, supplier, licensee or business relation and the Company or such Affiliate.

(y) "Losses" shall have the meaning set forth in Section 11(a) below.

(z) "Non-Competition Consideration" shall have the meaning set forth in Section 1(aa) below.

(aa) "Non-Competition Period" shall mean the period commencing on the Commencement Date and:

(i) in the case of Employee's termination of employment hereunder for any reason other than pursuant to Section 7(f) or (h) below, ending on the six (6) month anniversary of the date of such termination; or

(ii) in the case of Employee's termination of employment hereunder pursuant to Section 7(f) or (h) below, ending on the date of such termination; provided, however, that the Company may elect to extend the Non-Competition Period up to an additional six (6) months (reduced by any period of notice given by Employee pursuant to Section 7(d) hereof) following the date of such termination by providing Employee written notice of such election within five (5) business days following such termination specifying the applicable period of extension, in which case, Employee shall be entitled to receive an amount equal to the sum of (x) Employee's then-current Base Salary, and (y) Employee's target Annual Bonus for the fiscal year in which such termination occurs, in each case, prorated to the extent the Company has elected to extend the Non-Competition Period for less than six (6) months (such amount, so prorated, as applicable, the "Non-Competition Consideration"), payable as follows: (A) an amount equal to seventy-five percent (75%) of the Non-Competition Consideration shall be paid in substantially equal installments over the Non-Competition Period, in accordance with the Company's regular payroll practices, and (B) an amount equal to twenty-five percent (25%) of the Non-Competition Consideration shall be paid in a lump sum upon the expiration of the Non-Competition Period, subject in the case of both (A) and (B) to Employee's compliance during such period with the terms and conditions of Section 8 of this Agreement.

(bb) "Non-Extension Notice" shall have the meaning set forth in Section 2 below.

(cc) "Non-Interference Period" shall mean the period commencing on the Commencement Date and ending on the twelve (12) month anniversary of Employee's termination of employment hereunder for any reason.

(dd) "Parent" shall mean RenaissanceRe Holdings Ltd., the ultimate parent of the Company.

(ee) "Person" shall mean any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust (charitable or non-charitable), unincorporated organization or other form of business entity.

(ff) "Release Expiration Date" shall have the meaning set forth in Section 7(i) below.

(gg) "Restricted Area" shall mean (i) Bermuda, (ii) any State of the United States of America, (iii) the Republic of Ireland, (iv) the Republic of Singapore, (v) the United Kingdom, and (vi) any other jurisdiction in which the Company or its Affiliates engage (or have committed plans to engage) in business during the Term of Employment, or following termination of Employee's employment were engaged in (or had committed plans to engage in) at the time of such termination of employment.

(hh) "Severance Term" shall mean the six (6) month period following the date of Employee's termination of employment hereunder (1) due to Disability, (2) by the Company without Cause, (3) by Employee with Good Reason, or (4) by reason of a Non-Extension Notice from the Company.

(ii) "Term of Employment" shall mean the period specified in Section 2 below.

Section 2. Acceptance and Term of Employment.

The Company agrees to continue to employ Employee, and Employee agrees to continue to serve the Company, on the terms and conditions set forth herein. Unless earlier terminated pursuant to Section 7 hereof, the Term of Employment is the period which commenced on the Commencement Date and continues until the first (1st) anniversary of the Commencement Date; provided, however, that the Term of Employment shall be extended automatically, without further action by either the Company or Employee, by one (1) additional year first on such anniversary of the Commencement Date, and on each subsequent anniversary of the Commencement Date thereafter, unless, not less than ninety (90) days prior to the end of the Term of Employment (including any extension thereof), either the Company or Employee shall have notified the other in writing of its or Employee's intention not to further extend the Term of Employment (a "Non-Extension Notice").

Section 3. Duties and Responsibilities; Place of Performance.

(a) Employee shall have such duties and responsibilities as specified by the Direct Supervisor. These duties and responsibilities may be modified from time to time and as are consistent with Employee's position.

(b) Subject to the terms and conditions set forth in this Agreement, Employee shall devote Employee's full business time, attention, and efforts to the performance of Employee's duties under this Agreement and shall not engage in any other business or occupation during the Term of Employment, including, without limitation, any activity that (x) conflicts with the interests of the Company or its Affiliates, (y) interferes with the proper and efficient performance of Employee's duties for the Company, or (z) interferes with the exercise of Employee's judgment in the Company's best interests. Notwithstanding the foregoing, nothing herein shall preclude Employee from (i) serving, with the consent of the Company, as a member of the boards of directors or advisory boards (or their equivalents in the case of a non-corporate entity) of non-competing businesses and charitable organizations, (ii) engaging in charitable activities and community affairs, and (iii) managing Employee's personal investments and affairs; provided, however, that the activities set out in clauses (i), (ii) and (iii) shall be limited by Employee so as not to interfere, individually or in the aggregate, with the performance of Employee's duties and responsibilities hereunder.

(c) Employee's principal place of employment shall be at the Company's office in Hamilton, Bermuda, although Employee understands and agrees that Employee may be required to travel from time to time for business reasons.

Section 4. Compensation.

During the Term of Employment, Employee shall be entitled to the following compensation, subject to such withholding and other employee deductions as may be required by law:

(a) Base Salary. The Company shall pay Employee a Base Salary at a rate to be determined by the Chief Executive Officer (or its designee), upon recommendation of the Direct Supervisor. Base Salary shall be payable in accordance with the regular payroll procedures of the Company.

(b) Annual Bonus. Employee shall be eligible for an annual cash incentive bonus award determined by the Compensation Committee (or its designee) in respect of each fiscal year during the Term of Employment (the "Annual Bonus"). The actual Annual Bonus payable in respect of each fiscal year shall be based upon the level of achievement of performance objectives for such fiscal year, as determined by the Compensation Committee (or its designee) and communicated to Employee. The Annual Bonus shall be paid to Employee at the same time as annual bonuses are generally payable to other similarly situated employees of the Company in similar locations, subject to Employee's continuous employment through the payment date except as otherwise provided for in this Agreement.

(c) Equity Plans. Employee shall be eligible to participate in the Equity Plans and may receive Awards, as determined by the Compensation Committee (or its designee) from time to time, and subject to the terms and conditions of the Equity Plans and any Award agreement between the Parent and Employee evidencing such Awards.

Section 5. Employee Benefits and Perquisites.

(a) Employee Benefits. During the Term of Employment, Employee shall be entitled to participate in health, insurance, retirement, and other benefits generally provided to similarly situated employees of the Company in similar locations from time to time. Employee shall also be entitled to the same number of holidays, vacation days and sick days as are generally allowed to similarly situated employees of the Company in similar locations in accordance with the Company policy in effect from time to time.

(b) Perquisites. During the Term of Employment, the Company shall provide Employee with perquisites provided generally to similarly situated employees of the Company in similar locations, subject to applicable policies of the Company as approved from time to time by the Compensation Committee.

Section 6. Reimbursement of Business Expenses.

Employee is authorized to incur reasonable business expenses in carrying out Employee's duties and responsibilities under this Agreement and the Company shall promptly reimburse Employee for all such reasonable business expenses incurred in connection with carrying out the business of the Company, subject to documentation in accordance with the Company's policy as in effect from time to time.

Section 7. Termination of Employment.

(a) General. The Term of Employment shall terminate upon the earliest to occur of (i) Employee's death, (ii) a termination by the Company by reason of a Disability, (iii) a termination by the Company with or without Cause, (iv) a termination by Employee with or without Good Reason, and (v) the close of business on the last day of the Term of Employment (as provided in Section 2 above). Upon any termination of Employee's employment for any reason, except as may otherwise be requested by the Company in writing and agreed upon in writing by Employee, Employee shall resign from any and all directorships, committee memberships and any other positions Employee holds with the Company or any of its Affiliates.

(b) Death; Termination Due to Disability. Employee's employment shall terminate automatically upon Employee's death. The Company may terminate Employee's employment upon the occurrence of a Disability, such termination to be effective immediately upon Employee's receipt of written notice of such termination. In the event Employee's employment is terminated due to Employee's death or Disability, Employee or Employee's estate or Employee's beneficiaries, as the case may be, shall be entitled to:

(i) The Accrued Obligations;

(ii) Any unpaid Annual Bonus in respect of any completed fiscal year that has ended prior to the date of such termination, such amount to be paid at the same time it would have otherwise been paid to Employee had no such termination occurred, but in no event later than two and one-half (2½) months following the end of the fiscal year to which such Annual Bonus relates;

(iii) In the case of any termination as a result of Employee's Disability only, an amount equal to seventy-five percent (75%) of Employee's then-current Base Salary, such amount to be paid in substantially equal installments over the Severance Term, in accordance with the Company's regular payroll practices;

(iv) In the case of any termination as a result of Employee's Disability only, upon the expiration of the Severance Term, and subject to Employee's compliance during such period with the terms and conditions of this Agreement, a lump sum amount equal to twenty-five percent (25%) of Employee's then-current Base Salary;

(v) A pro rata Annual Bonus (determined using the target Annual Bonus for the fiscal year in which such termination occurs) based on the number of days elapsed from the commencement of such fiscal year through and including the date of such termination, such amount to be paid on the first administratively feasible payroll date following such termination; and

(vi) In the case of any termination as a result of Employee's Disability only, to the extent permitted by applicable law and the terms and conditions of the applicable plan and without penalty to the Company, continuation of the health benefits provided to Employee and Employee's covered dependents under the Company health plans as of the date of such termination at the same cost applicable to active employees until the earlier of: (1) the expiration of the Severance Term, and (2) the date Employee commences employment with any Person, in each case, subject to Employee's compliance during the Severance Term with the terms and conditions of this Agreement; provided, that, in the event that Employee is eligible for COBRA continuation coverage under the Company's health plans as of the date of such termination, provision of the benefit described in this subsection (vi) shall be subject to Employee's timely election of, and remaining eligible for, such coverage. Notwithstanding the foregoing, in the event the Company determines, in its sole discretion, that it cannot provide such continued health benefits under applicable law or the terms and conditions of the applicable plan without incurring financial costs or penalties or that the Company is otherwise unable to provide such continued health benefits on commercially reasonable terms and premiums therefor, then the Company shall, in lieu of the benefit described in this subsection (vi), provide to Employee a lump sum cash payment in the amount equal to the sum of the premiums that the Company would have paid in respect of such continued health benefits for the remainder of the Severance Term (based on the premium rates as of the date of such termination), payable on the first administratively feasible payroll date following such determination.

Notwithstanding the foregoing, the payments and benefits described in subsections (ii) through (vi) above shall immediately cease, and the Company shall have no further obligations to Employee with respect thereto, in the event Employee breaches any provision of Section 8 hereof.

Following termination of Employee's employment by reason of Employee's death or Disability, except as set forth in this Section 7(b), Employee shall have no further rights to any compensation or any other benefits under this Agreement.

(c) Termination by the Company for Cause.

(i) A termination for Cause shall not take effect unless the provisions of this subsection (i) are complied with. Employee shall be given not less than fifteen (15) days' written notice by the Company of the intention to terminate Employee's employment for Cause, such notice to state in detail the particular act or acts or failure or failures to act that constitute the grounds on which the proposed termination for Cause is based. Employee shall have fifteen (15) days after the date that such written notice has been given to Employee in which to cure such act or acts or failure or failures to act, to the extent such cure is possible. If Employee fails to cure such act or acts or failure or failures to act, the termination shall be effective on the date immediately following the expiration of the fifteen (15) day notice period. If cure is not possible, the termination shall be effective on the date of receipt of such notice by Employee.

(ii) In the event the Company terminates Employee's employment for Cause, Employee shall be entitled only to the Accrued Obligations. Following termination of Employee's employment by the Company for Cause, except as set forth in this Section 7(c)(ii), Employee shall have no further rights to any compensation or any other benefits under this Agreement.

(d) Termination by the Company without Cause. The Company may terminate Employee's employment at any time without Cause, effective upon the ninetieth (90th) day following Employee's receipt of written notice of such termination; provided, that the Company may, in its sole and absolute discretion, by written notice accelerate such date of termination by paying Employee, in addition to any amounts Employee is due under this Section 7(d), an amount equal to Employee's then-current Base Salary for all or any portion of the ninety (90) day notice period required under this Section 7(d) in lieu of all or any portion of such notice period. In the event Employee's employment is terminated by the Company without Cause (other than due to death or Disability), Employee shall be entitled to:

(i) The Accrued Obligations;

(ii) Any unpaid Annual Bonus in respect of any completed fiscal year that has ended prior to the date of such termination, such amount to be paid at the same time it would have otherwise been paid to Employee had no such termination occurred, but in no event later than two and one-half (2½) months following the end of the fiscal year to which such Annual Bonus relates;

(iii) An amount equal to seventy-five percent (75%) (or if such termination occurs within one year following a Change in Control, one hundred fifty percent (150%)) of the sum of Employee's then-current Base Salary and Annual Bonus (determined using the greater of (1) the target Annual Bonus for the fiscal year in which such termination occurs and (2) the actual Annual Bonus for the fiscal year in which such termination occurs), such amount to be paid in substantially equal installments over the Severance Term in accordance with the Company's regular payroll practices;

(iv) Upon the expiration of the Severance Term, and subject to Employee's compliance during such period with the terms and conditions of this Agreement, a lump sum amount equal to twenty-five percent (25%) (or if such termination occurs within one year following a Change in Control, fifty percent (50%) of the sum of Employee's then-current Base Salary and Annual Bonus (determined using the greater of (1) the target Annual Bonus for the fiscal year in which such termination occurs and (2) the actual Annual Bonus for the fiscal year in which such termination occurs);

(v) A pro rata Annual Bonus (determined using the target Annual Bonus for the fiscal year in which such termination occurs) based on the number of days elapsed from the commencement of such fiscal year through and including the date of such termination, such amount to be paid on the first administratively feasible payroll date following such termination; and

(vi) To the extent permitted by applicable law and the terms and conditions of the applicable plan and without penalty to the Company, continuation of the health benefits provided to Employee and Employee's covered dependents under the Company health plans as of the date of such termination at the same cost applicable to active employees until the earlier of: (1) the expiration of the Severance Term, and (2) the date Employee commences employment with any Person, in each case, subject to Employee's compliance during the Severance Term with the terms and conditions of this Agreement; provided, that, in the event that Employee is eligible for COBRA continuation coverage under the Company's health plans as of the date of such termination, provision of the benefit described in this subsection (vi) shall be subject to Employee's timely election of, and remaining eligible for, such coverage. Notwithstanding the foregoing, in the event the Company determines, in its sole discretion, that it cannot provide such continued health benefits under applicable law or the terms and conditions of the applicable plan without incurring financial costs or penalties or that the Company is otherwise unable to provide such continued health benefits on commercially reasonable terms and premiums therefor, then the Company shall, in lieu of the benefit described in this subsection (vi), provide to Employee a lump sum cash payment in the amount equal to the sum of the premiums that the Company would have paid in respect of such continued health benefits for the remainder of the Severance Term (based on the premium rates as of the date of such termination), payable on the first administratively feasible payroll date following such determination.

Notwithstanding the foregoing, the payments and benefits described in subsections (ii) through (vi) above shall immediately cease, and the Company shall have no further obligations to Employee with respect thereto, in the event that Employee breaches any provision of Section 8 hereof.

Following termination of Employee's employment by the Company without Cause, except as set forth in this Section 7(d), Employee shall have no further rights to any compensation or any other benefits under this Agreement.

(e) Termination by Employee with Good Reason. Employee may terminate Employee's employment with Good Reason by providing the Company fifteen (15) days' written notice setting forth in reasonable specificity the event that constitutes Good Reason, which written notice, to be effective, must be provided to the Company within sixty (60) days of the occurrence of such event. During such fifteen (15) day notice period, the Company shall have a cure right (if curable), and if not cured within such period, Employee's termination will be effective upon the date immediately following the expiration of the fifteen (15) day notice period, and Employee shall be entitled to the same payments and benefits as provided in Section 7(d) above for a termination without Cause, it being agreed that Employee's right to any such payments and benefits shall be subject to the same terms and conditions as described in Section 7(d) above. Following termination of Employee's employment by Employee with Good Reason, except as set forth in this Section 7(e), Employee shall have no further rights to any compensation or any other benefits under this Agreement.

(f) Termination by Employee without Good Reason. Employee may terminate Employee's employment without Good Reason by providing the Company ninety (90) days' written notice of such termination. In the event of termination of Employee's employment under this Section 7(f), the Company may, in its sole and absolute discretion, by written notice to Employee accelerate the date of termination without changing the characterization of such termination as a termination by Employee without Good Reason. Upon a termination of employment by Employee without Good Reason under this Section 7(f), Employee shall be entitled to:

(i) The Accrued Obligations;

(ii) The Non-Competition Consideration, if applicable; and

(iii) To the extent permitted by applicable law and the terms and conditions of the applicable plan and without penalty to the Company, continuation of the health benefits provided to Employee and Employee's covered dependents under the Company health plans as of the date of such termination at the same cost applicable to active employees until the earlier of: (1) the expiration of the Non-Competition Period, and (2) the date Employee commences employment with any Person, in each case, subject to Employee's compliance during the Non-Competition Period with the terms and conditions of this Agreement; provided, that, in the event that Employee is eligible for COBRA continuation coverage under the Company's health plans as of the date of such termination, provision of the benefit described in this subsection (iii) shall be subject to Employee's timely election of, and remaining eligible for, such coverage. Notwithstanding the foregoing, in the event the Company determines, in its sole discretion, that it cannot provide such continued health benefits under applicable law or the terms and conditions of the applicable plan without incurring financial costs or penalties or that the Company is otherwise unable to provide such continued health benefits on commercially reasonable terms and premiums therefor, then the Company shall, in lieu of the benefit described in this subsection (iii), provide to Employee a lump sum cash payment in the amount equal to the sum of the premiums that the Company would have paid in respect of such continued health benefits for the remainder of the Non-Competition Period (based on the premium rates as of the date of such termination), payable on the first administratively feasible payroll date following such determination.

Following termination of Employee's employment by Employee without Good Reason, except as set forth in this Section 7(f), Employee shall have no further rights to any compensation or any other benefits under this Agreement, and Employee shall have no further obligations to the Company, except as set forth in Sections 7(j), 8, 9, 11(c), and 12 hereof.

(g) Expiration of the Term of Employment following a Non-Extension Notice by the Company. Upon the timely delivery of a Non-Extension Notice by the Company to Employee, Employee's employment shall terminate upon the close of business of the last day of the Term of Employment. Upon such expiration of the Term of Employment, Employee shall be entitled to the same payments and benefits as provided in Section 7(d) above for a termination without Cause, it being agreed that Employee's right to any such payments and benefits shall be subject to the same terms and conditions as described in Section 7(d) above. Following termination of Employee's employment upon expiration of the Term of Employment following a Non-Extension Notice by the Company, except as set forth in this Section 7(g), Employee shall have no further rights to any compensation or any other benefits under this Agreement.

(h) Expiration of the Term of Employment following a Non-Extension Notice by Employee. Upon the timely delivery of a Non-Extension Notice by Employee to the Company, Employee's employment shall terminate upon the close of business of the last day of the Term of Employment. Upon such expiration of the Term of Employment, Employee shall be entitled to:

(i) The Accrued Obligations;

(ii) The Non-Competition Consideration, if applicable;

(iii) Any unpaid Annual Bonus in respect of any completed fiscal year that has ended prior to the date of such termination, such amount to be paid at the same time it would have otherwise been paid to Employee had no such termination occurred, but in no event later than two and one-half (2½) months following the end of the fiscal year to which such Annual Bonus relates; and

(iv) To the extent permitted by applicable law and the terms and conditions of the applicable plan and without penalty to the Company, continuation of the health benefits provided to Employee and Employee's covered dependents under the Company health plans as of the date of such termination at the same cost applicable to active employees until the earlier of: (1) the expiration of the Non-Competition Period, and (2) the date Employee commences employment with any Person, in each case, subject to Employee's compliance during the Non-Competition Period with the terms and conditions of this Agreement; provided, that, in the event that Employee is eligible for COBRA continuation coverage under the Company's health plans as of the date of such termination, provision of the benefit described in this subsection (iv) shall be subject to Employee's timely election of, and remaining eligible for, such coverage. Notwithstanding the foregoing, in the event the Company determines, in its sole discretion, that it cannot provide such continued health benefits under applicable law or the terms and conditions of the applicable plan without incurring financial costs or penalties or that the Company is otherwise unable to provide such continued health benefits on commercially reasonable terms and premiums therefor, then the Company shall, in lieu of the benefit described in this subsection (iv), provide to Employee a lump sum cash payment in the amount equal to the sum of the premiums that the Company would have paid in respect of such continued health benefits for the remainder of the Non-Competition Period (based on the premium rates as of the date of such termination), payable on the first administratively feasible payroll date following such determination.

Following termination of Employee's employment upon expiration of the Term of Employment following a Non-Extension Notice by Employee, except as set forth in this Section 7(h), Employee shall have no further rights to any compensation or any other benefits under this Agreement.

(i) Release. Notwithstanding any provision herein to the contrary, the Company may require that, prior to payment of any amount or provision of any benefit pursuant to this Section 7 (other than the Accrued Obligations), Employee and the Company shall have executed mutual general releases in the form as is reasonably agreed to by the Company and Employee, and any waiting periods contained in such release shall have expired. Such release, if required by the Company, shall be delivered to Employee within ten (10) business days following the termination of Employee's employment hereunder, and the Company's failure to deliver such release to Employee within such ten (10) business day period shall constitute a waiver of such requirement. Assuming a timely delivery of the release by the Company, if Employee fails to execute such release on or prior to the Release Expiration Date, Employee shall not be entitled to any payments or benefits pursuant to this Section 7 (other than the Accrued Obligations). Notwithstanding anything herein to the contrary, in any case where the date of Employee's termination and the Release Expiration Date fall in two separate taxable years, any payments required to be made to Employee that are treated as deferred compensation for purposes of Section 409A of the Code shall be made in the later taxable year. For purposes of this Agreement, "Release Expiration Date" means the date that is twenty-one (21) days following the date upon which the Company timely delivers to Employee the release contemplated herein, or in the event that such termination of employment is "in connection with an exit incentive or other employment termination program" (as such phrase is defined in the U.S. Age Discrimination in Employment Act of 1967), the date that is forty-five (45) days following such delivery date.

(j) Post-Termination Cooperation. Following any termination of Employee's employment for any reason, Employee shall reasonably cooperate with the Company to assist with existing or future investigations, proceedings, litigations or examinations involving the Company or any Affiliates. For each day, or part thereof, that Employee provides assistance to the Company as contemplated hereunder, the Company shall pay Employee an amount equal to (x) divided by (y), where (x) equals the sum of Base Salary and target Annual Bonus as in effect on the date of Employee's termination of employment, and (y) equals two hundred (200). In addition, upon presentment of satisfactory documentation, the Company will reimburse Employee for reasonable out-of-pocket travel, lodging and other incidental expenses Employee incurs in providing such assistance. Employee shall not be required to travel to Bermuda to provide any assistance contemplated hereunder, but if requested by the Company, shall make reasonable good faith efforts to travel to such locations as the Company may reasonably request.

(k) Section 409A. Notwithstanding anything herein to the contrary, the payment (or commencement of a series of payments) hereunder of any nonqualified deferred compensation (within the meaning of Section 409A of the Code) upon a termination of employment shall be delayed until such time as Employee has also undergone a "separation from service" as defined in U.S. Treasury Regulation Section 1.409A-1(h), at which time such nonqualified deferred compensation (calculated as of the date of Employee's termination of employment hereunder) shall be paid (or commence to be paid) to Employee on the schedule set forth in this Section 7 as if Employee had undergone such termination of employment (under the same circumstances) on the date of Employee's ultimate "separation from service."

Section 8. Restrictive Covenants.

Employee acknowledges and agrees that (A) the agreements and covenants contained in this Section 8 are (i) reasonable and valid in geographical and temporal scope and in all other respects, and (ii) essential to protect the value of the Company's business and assets, and (B) by Employee's employment with the Company, Employee will obtain knowledge, contacts, know-how, training and experience, and there is a substantial probability that such knowledge, know-how, contacts, training and experience could be used to the substantial advantage of a competitor of the Company and to the Company's substantial detriment. For purposes of this Section 8, references to the Company shall be deemed to include its Affiliates.

(a) Confidential Information. Except as directed or authorized by the Company, Employee agrees that Employee will not, at any time during or after the Term of Employment, make use of or divulge to any other Person any trade or business secret, process, method or means, or any other confidential information concerning the business or policies of the Company or any of its divisions, subsidiaries or Affiliates (whether or not recorded in documentary form, or stored on any magnetic or optical disk or memory or other object) that Employee may have learned in connection with Employee's employment hereunder and that Employee knows to be confidential or proprietary ("Confidential Information"). Employee's obligation under this Section 8(a) shall not apply to any information that (i) is known publicly without the fault of Employee; (ii) is in the public domain or hereafter enters the public domain without the fault of Employee; (iii) is known to Employee prior to Employee's receipt of such information from the Company, as evidenced by written records of Employee; or (iv) is hereafter disclosed to Employee by a third party not under an obligation of confidence to the Company. Employee agrees not to remove from the premises of the Company, except as an employee of the Company in pursuit of the business of the Company or except as specifically permitted by the Company, any document or other object containing or reflecting any such Confidential Information. Employee recognizes that all such documents and objects, whether developed by Employee or by someone else, will be the sole exclusive property of the Company. Upon termination of Employee's employment hereunder, Employee shall forthwith deliver to the Company all such Confidential Information, including without limitation all lists of customers, correspondence, accounts, records and any other documents or property made or held by Employee or under Employee's control in relation to the business or affairs of the Company or its divisions, subsidiaries or Affiliates, and no copy of any such Confidential Information shall be retained by Employee.

(b) Whistleblower; Defending Trade Secrets Act Disclosure.

(i) In addition, Employee understands that nothing in this Agreement shall be construed to prohibit Employee from reporting possible violations of law or regulation to any governmental agency or regulatory body or making other disclosures that are protected under any law or regulation, or from filing a charge with or participating in any investigation or proceeding conducted by any governmental agency or regulatory body.

(ii) Employee understands that the U.S. Defending Trade Secrets Act provides that Employee may not be held criminally or civilly liable under any U.S. Federal or state trade secret law for the disclosure of a trade secret that is made in confidence to a U.S. Federal, state, or local government official, either directly or indirectly, or to an attorney, and solely for the purpose of reporting or investigating a suspected violation of law; or that is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. In the event that Employee files a lawsuit for retaliation by Parent, any of its direct or indirect subsidiaries or its affiliates for reporting a suspected violation of law, Employee may disclose the trade secret to Employee's attorney and use the trade secret information in the court proceeding, if Employee files any document containing the trade secret under seal and does not disclose the trade secret, except pursuant to court order.

(c) Non-Competition. Employee covenants and agrees that during the Non-Competition Period, Employee shall not, directly or indirectly, individually or jointly, own any interest in, operate, join, control or participate as a partner, director, principal, officer, or agent of, enter into the employment of, act as a consultant to, or perform any services for any Person (other than the Company), that engages in any Competitive Activities within the Restricted Area. Notwithstanding anything herein to the contrary, this Section 8(c) shall not prevent Employee from acquiring as an investment securities representing not more than three percent (3%) of the outstanding voting securities of any publicly held corporation or from being a passive investor in any mutual fund, hedge fund, private equity fund or similar pooled account so long as Employee’s interest therein is less than three percent (3%) and Employee has no role in selecting or managing investments thereof.

(d) Non-Interference. During the Non-Interference Period, Employee shall not, directly or indirectly, for Employee’s own account or for the account of any other Person, engage in Interfering Activities.

(e) Return of Documents. In the event of the termination of Employee’s employment for any reason, Employee shall deliver to the Company all of (i) the property of the Company, and (ii) the documents and data of the Company of any nature and in whatever medium, and Employee shall not take with Employee any such property, documents or data, or any reproduction thereof, or any documents containing or pertaining to any Confidential Information.

(f) Works for Hire. Employee agrees that the Company shall own all right, title and interest throughout the world in and to any and all inventions, original works of authorship, developments, concepts, know-how, improvements and trade secrets, whether or not patentable or registerable under copyright or similar laws, which Employee may solely or jointly conceive or develop or reduce to practice, or cause to be conceived or developed or reduced to practice during the Term of Employment, whether or not during regular working hours, provided they either (i) relate at the time of conception or development to the actual or demonstrably proposed business or research and development activities of the Company; (ii) result from or relate to any work performed for the Company; or (iii) are developed through the use of Confidential Information and/or Company resources or in consultation with Company personnel (collectively referred to as “Developments”). Employee hereby assigns to the Company all right, title and interest in and to any and all of these Developments. Employee agrees to assist the Company, at the Company’s expense (but for no other consideration of any kind), to further evidence, record and perfect such assignments, and to perfect, obtain, maintain, enforce, and defend any rights specified to be so owned or assigned. Employee hereby irrevocably designates and appoints the Company and its agents as attorneys-in-fact to act for and on Employee’s behalf to execute and file any document and to do all other lawfully permitted acts to further the purposes of the foregoing with the same legal force and effect as if executed by Employee. In addition, and not in contravention of any of the foregoing, Employee acknowledges that all original works of authorship that are made by Employee (solely or jointly with others) within the scope of employment and that are protectable by copyright are “works made for hire,” as that term is defined in the U.S. Copyright Act (17 U.S.C. § 101). To the extent allowed by law, this includes all rights of paternity, integrity, disclosure and withdrawal and any other rights that may be known as or referred to as “moral rights.” To the extent Employee retains any such moral rights under applicable law, Employee hereby waives such moral rights and consents to any action consistent with the terms of this Agreement with respect to such moral rights, in each case, to the full extent of such applicable law. Employee will confirm any such waivers and consents from time to time as requested by the Company.

(g) Blue Pencil. If any court of competent jurisdiction shall at any time deem the duration or the geographic scope of any of the provisions of this Section 8 unenforceable, the other provisions of this Section 8 shall nevertheless stand, and the duration and/or geographic scope set forth herein shall be deemed to be the longest period and/or greatest size permissible by law under the circumstances, and the parties hereto agree that such court shall reduce the time period and/or geographic scope to permissible duration or size.

Section 9. Breach of Restrictive Covenants.

Without limiting the remedies available to the Company, Employee acknowledges that a breach of any of the covenants contained in Section 8 hereof may result in material irreparable injury to the Company or its Affiliates for which there is no adequate remedy at law, that it will not be possible to measure damages for such injuries precisely and that, in the event of such a breach or threat thereof, the Company shall be entitled to obtain a temporary restraining order and/or a preliminary or permanent injunction, without the necessity of proving irreparable harm or injury as a result of such breach or threatened breach of Section 8 hereof, restraining Employee from engaging in activities prohibited by Section 8 hereof or such other relief as may be required specifically to enforce any of the covenants in Section 8 hereof. Notwithstanding any other provision to the contrary, both the Non-Competition Period and the Non-Interference Period shall be tolled during any period of violation of any of the covenants in Section 8(c) or (d) hereof and during any other period required for litigation during which the Company seeks to enforce such covenants against Employee or another Person with whom Employee is affiliated if it is ultimately determined that Employee was in breach of such covenants.

Section 10. Representations and Warranties of Employee.

Employee represents and warrants to the Company that:

(a) Employee's employment will not conflict with or result in Employee's breach of any agreement to which Employee is a party or otherwise may be bound;

(b) Employee has not violated, and in connection with Employee's employment with the Company will not violate, any non-solicitation, non-competition or other similar covenant or agreement of a prior employer by which Employee is or may be bound; and

(c) In connection with Employee's employment with the Company, Employee will not use any confidential or proprietary information that Employee may have obtained in connection with employment with any prior employer.

Section 11. Indemnification

(a) Indemnification. The Company shall defend, hold harmless and indemnify Employee to the fullest extent permitted by applicable law, as currently in effect or as it may hereafter be amended, from and against any and all damages, losses, liabilities, obligations, claims of any kind, costs, interest or expenses (including, without limitation, reasonable attorneys' fees and expenses) (collectively, "Losses") that may be incurred or suffered by Employee in connection with or arising out of Employee's service with the Company or its Affiliates (whether prior to or following the date hereof), subject only to the provisions of subsection (b) below.

(b) Exceptions to Right of Indemnification. No indemnification shall be made under this Section 11 in respect of the following:

(i) Losses relating to the disgorgement remedy contemplated by Section 16 of the Exchange Act;

(ii) Losses arising out of a knowing violation by Employee of a material provision of this Section 11 or any other agreement to which Employee is a party with the Company or its Affiliates; and

(iii) Losses arising out of a final, nonappealable conviction of Employee by a court of competent jurisdiction for a knowing violation of criminal law.

Moreover, the Company shall not effect any advances, or advance any costs, relating to any proceeding (or part thereof) initiated by Employee unless the initiation thereof was approved by the Board, or as may be approved or ordered by a competent tribunal.

(c) Prepayment of Expenses. Unless Employee otherwise elects via written notice to the Company, expenses incurred in defending any civil or criminal action, suit or proceeding shall be paid by the Company in advance of the final disposition of such action, suit or proceeding upon receipt by the Company of a written affirmation of Employee's good faith belief that Employee's conduct does not constitute the sort of behavior that would preclude Employee's indemnification under this Section 11 and Employee furnishes the Company a written undertaking, executed personally or on Employee's behalf, to repay any advances if it is ultimately determined that Employee is not entitled to be indemnified by the Company under this Section 11.

(d) Continuation of Indemnity. All agreements and obligations of the Company contained in this Section 11 shall continue during the period in which Employee is employed by the Company and shall continue thereafter so long as Employee shall be subject to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, and whether formal or informal, by reason of the fact that Employee was employed by the Company.

(e) Indemnification Hereunder Not Exclusive. The indemnification and prepayment of expenses provided by this Section 11 are in addition to and shall not be deemed exclusive of any other right to which Employee may be entitled under the Company's or Parent's organizational documents, any agreement, any vote of shareholders or disinterested directors, Bermuda law, any other law (common or statutory) or otherwise. Nothing contained in this Section 11 shall be deemed to prohibit the Company from purchasing and maintaining insurance, at its expense, to protect itself or Employee against any expense, liability or loss incurred by it or Employee, whether or not Employee would be indemnified against such expense, liability or loss under this Section 11; provided, that the Company shall not be liable under this Section 11 to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Employee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise. In the event the Company makes any indemnification payments to Employee and Employee is subsequently reimbursed from the proceeds of insurance, Employee shall promptly refund such indemnification payments to the Company to the extent of such insurance reimbursement.

Section 12. Taxes.

The Company may withhold from any payments made under this Agreement all applicable taxes, including but not limited to income, employment and social insurance taxes, as shall be required by law.

Section 13. Mitigation; Set-Off.

The Company's obligation to pay Employee the amounts provided and to make the arrangements provided hereunder shall not be subject to set-off, counterclaim or recoupment of amounts owed by Employee to the Company or its Affiliates. Employee shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment or otherwise and, except as provided in Sections 7(b)(vi), 7(d)(vi), 7(f)(iii) and 7(h)(iv) hereof, the amount of any payment provided for pursuant to this Agreement shall not be reduced by any compensation earned as a result of Employee's other employment or otherwise.

Section 14. Delay in Payment; Section 409A of the Code.

Notwithstanding any provision in this Agreement to the contrary, any payment otherwise required to be made hereunder to Employee at any date as a result of the termination of Employee's employment shall be delayed for such period of time as may be necessary to meet the requirements of Section 409A(a)(2)(B)(i) of the Code. On the earliest date on which such payments can be made without violating the requirements of Section 409A(a)(2)(B)(i) of the Code, there shall be paid to Employee, in a single cash lump sum, an amount equal to the aggregate amount of all payments delayed pursuant to the preceding sentence. This Agreement is intended to comply with Section 409A of the Code, and any ambiguous provisions hereof will be construed in a manner that is compliant with the application of Section 409A of the Code. If a provision of this Agreement would result in the imposition of any additional tax under Section 409A of the Code, the parties agree that such provision shall be reformed to the extent permissible under Section 409A of the Code to avoid imposition of the additional tax, with such reformation effected in a manner that has the most favorable tax result to Employee. For purposes of Code Section 409A, each payment or amount due under this Agreement shall be considered a separate payment, and Employee's entitlement to a series of payments under this Agreement is to be treated as an entitlement to a series of separate payments.

Section 15. Successors and Assigns; No Third-Party Beneficiaries.

(a) The Company. This Agreement shall inure to the benefit of and be enforceable by, and may be assigned by the Company to, any purchaser of all or substantially all of the Company's business or assets or any successor to the Company (whether direct or indirect, by purchase, merger, consolidation or otherwise). The Company will require in a writing delivered to Employee any such purchaser, successor or assignee to expressly assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such purchase, succession or assignment had taken place. The Company may make no other assignment of this Agreement or its obligations hereunder.

(b) Employee. Employee's rights and obligations under this Agreement shall not be transferable by Employee by assignment or otherwise, without the prior written consent of the Company; provided, however, that if Employee shall die, all amounts then payable to Employee hereunder shall be paid in accordance with the terms of this Agreement to Employee's devisee, legatee or other designee or, if there be no such designee, to Employee's estate.

(c) No Third-Party Beneficiaries. Except as otherwise set forth in Section 7(b) or Section 15(b) hereof, nothing expressed or referred to in this Agreement will be construed to give any Person other than the Company, its Affiliates, and Employee any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement.

Section 16. Waiver and Amendments.

Any waiver, alteration, amendment or modification of any of the terms of this Agreement shall be valid only if made in writing and signed by each of the parties hereto; provided, however, that any such waiver, alteration, amendment or modification is consented to by the Company. No waiver by either of the parties hereto of their rights hereunder shall be deemed to constitute a waiver with respect to any subsequent occurrences or transactions hereunder unless such waiver specifically states that it is to be construed as a continuing waiver.

Section 17. Severability.

If any covenants or other provisions of this Agreement are found to be invalid or unenforceable by a final determination of a court of competent jurisdiction, (a) the remaining terms and provisions hereof shall be unimpaired, and (b) the invalid or unenforceable term or provision hereof shall be deemed replaced by a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision hereof.

Section 18. Governing Law.

THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF BERMUDA (WITHOUT GIVING EFFECT TO THE CHOICE OF LAW PRINCIPLES THEREOF) APPLICABLE TO CONTRACTS MADE AND TO BE PERFORMED ENTIRELY WITHIN SUCH COUNTRY.

Section 19. Notices.

(a) Every notice or other communication relating to this Agreement shall be in writing, and shall be mailed to or delivered to the party for whom it is intended at such address as may from time to time be designated by it in a notice mailed or delivered to the other party as herein provided; provided, that, unless and until some other address be so designated, all notices or communications by Employee to the Company shall be mailed or delivered to the Company at its principal executive office, and all notices or communications by the Company to Employee may be given to Employee personally or may be mailed to Employee at Employee's last known address, as reflected in the Company's records.

(b) Any notice so addressed shall be deemed to be given (i) if delivered by hand, on the date of such delivery, (ii) if mailed by courier or by overnight mail, on the first (1st) business day following the date of such mailing, (iii) if mailed by registered or certified mail, on the third (3rd) business day after the date of such mailing, or (iv) if transmitted by facsimile or electronic mail, on the date of such transmission.

Section 20. Section Headings.

The headings of the sections and subsections of this Agreement are inserted for convenience only and shall not be deemed to constitute a part thereof or affect the meaning or interpretation of this Agreement or of any term or provision hereof.

Section 21. Entire Agreement.

This Agreement, together with that certain Statement of Employment and Global Transfer Letter, dated as of March 22, 2017 and March 31, 2017 between the Employee and RenaissanceRe Services Ltd., constitutes the entire understanding and agreement of the parties hereto regarding the employment of Employee following the Commencement Date. This Agreement supersedes all prior negotiations, discussions, correspondence, communications, understandings and agreements between the parties relating to the subject matter of this Agreement.

Section 22. Survival of Operative Sections.

Upon any termination of Employee's employment, the provisions of Section 7 through Section 23 of this Agreement (together with any related definitions set forth in Section 1 hereof) shall survive to the extent necessary to give effect to the provisions thereof.

Section 23. Counterparts.

This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The execution of this Agreement may be by actual or facsimile signature.

* * *

[*Signatures to appear on the following page(s)*.]

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first above written.

RENAISSANCERE SERVICES LTD.

By: /s/ Kevin O’Donnell
Name: Kevin O’Donnell
Title: CEO

EMPLOYEE

/s/ Sean Brosnan
Sean Brosnan

[*Signature Page to Sean Brosnan Employment Agreement*]

Exhibit 31.1

CERTIFICATION

I, Kevin J. O'Donnell, certify that:

1. I have reviewed this Form 10-Q of RenaissanceRe Holdings Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2022

/s/ Kevin J. O'Donnell
Kevin J. O'Donnell
Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Robert Qutub, certify that:

1. I have reviewed this Form 10-Q of RenaissanceRe Holdings Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2022

/s/ Robert Qutub

Robert Qutub

Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Form 10-Q of RenaissanceRe Holdings Ltd. (the “Company”) for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Kevin J. O'Donnell, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Kevin J. O'Donnell
Kevin J. O'Donnell
Chief Executive Officer
May 4, 2022

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Form 10-Q of RenaissanceRe Holdings Ltd. (the “Company”) for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Robert Qutub, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Robert Qutub
Robert Qutub
Chief Financial Officer
May 4, 2022